

THE MEDICAL TIMES.

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ORIGINAL LECTURES.

TWO CLINICAL LECTURES ON PELVIC PERITONITIS.

BY JOHN S. PARRY, M.D.,

Attending-Accoucheur to the Philadelphia Hospital.

LECTURE I.

GENTLEMEN: I am about to bring before you this morning two examples of a very common affection. The disorder has been produced by very different causes in the two patients, for one is a non-puerperal and the other a puerperal woman. The following is the history of the first case:

Emma M.—, age 18, born in Germany, a prostitute and single. On January 10, 1871, she was admitted to the venereal wards of the hospital, under the care of my colleague, Dr. Brinton. When she entered the institution, she was suffering from gonorrhœa and chancres of three days' duration.

Her present illness commenced four weeks ago, or about February 21, and for three or four days before it began, the gonorrhœal discharge was very much diminished, if not entirely arrested.

When the disorder set in, she had sharp lancinating pain in the pelvis, with fever and a frequent pulse. The pain was continuous and not paroxysmal. Shortly afterwards it was discovered that the uterus was fixed in the pelvis. I now saw her at the request of Dr. Brinton, and made an imperfect vaginal examination, as the chances had not healed.

The uterus was firmly fixed, with the os pushed backwards and towards the right. The tissues around the organ were much indurated, especially on the left side. The sensation imparted to the fingers was that of an ill-defined tumor in which the uterus was imbedded. Upon the left side the induction was continuous with an apparent tumor which was felt in the corresponding iliac fossa, and which reached a point just above the brim of the pelvis. The examination gave her great pain.

There was much tenderness over the hypogastrium and in both iliac fossæ, but especially on the left side. She suffered greatly from vesical tenesmus, and passed her urine frequently. Her bowels were regular, and she had no pain at stool. There was no pain in the leg, and it could be freely extended.

March 20, 1871.—Dr. Brinton transferred her to one of my beds in the ward for diseases of women. She was then thin, pale, and anaemic, but without fever. Her tongue was clean, bowels regular, and defecation painless. The vesical tenesmus was considerable. There was no pain in the lower extremities, and no retraction of either thigh. She still complained of pain in the pelvis, which had ceased to be constant, and was then distinctly paroxysmal.

Abdomino-vaginal Examination.—The abdomen is everywhere resonant on percussion, except in the left iliac fossa, in which there is an indurated mass which appears to rise up out of the cavity of the pelvis. The right boundary of this is a little beyond the median line. Its upper margin is about three finger-breadths above the pubis and Poupart's ligament. On vaginal examination, the uterus is found to be pressed backwards into the hollow of the sacrum; to be firmly fixed and surrounded by an indurated mass, which nearly fills the cavity of the pelvis. This is less developed upon the right than the left side, where it is continuous with the tumor in the left iliac fossa. Upon the right side, none of the structures outside of the true pelvis are involved, but upon careful bimanual palpation some deep-seated induration can be felt in the iliac fossa of that side. The tumor is exceedingly hard, nearly regular in outline, only slightly tender, and is easily

reached by the examining finger. As previously stated, the uterus seemed to be imbedded in it.*

The important points in the clinical history just read, and the facts which it is especially desirable that you should remember, are the following: That the disease we are considering made its appearance during the progress of an attack of gonorrhœa; that it is an acute affection, attended with fever, sharp lancinating pain, and the development of an indurated tumor in the pelvic cavity, with displacement and fixation of the uterus.

Asking you to remember these statements, I will now introduce our second patient, and read a summary of her history:

A. W., age 21. On January 18, 1871, she was delivered of her first child, in the Obstetrical Department, by Dr. Davis, Resident Accoucheur. The labor was easy and normal, and she continued well for two days afterwards, when she complained of a dull pain in the middle line of the abdomen, just above the pubis. This pain was confined to the uterus, which could be distinctly felt through the thin abdominal walls, and which reached a point half-way between the pubic symphysis and the umbilicus. The uterus was tender upon pressure, but there was no evidence that the disease involved any of the parts around that organ. Both iliac fosse appeared to be healthy. Her skin was cool, pulse quiet, the base of the tongue covered by a thin white fur, her appetite poor, and bowels constipated. The lochia were scanty.

Thirty-six hours later, without having had a distinct chill in the interval, she had fever, with dry but not very hot skin, flushed face, and a frequent, rather small, hard pulse. The pain in the pelvis was now severe, sharp, and lancinating. It was increased by moving, deep breathing, or coughing. The tenderness had extended beyond the uterus and involved the right iliac fossa, and she flinched when the slightest pressure was made over this part. The left was but slightly affected. Her tongue was covered with a white fur; appetite totally destroyed. There was nausea, and some, though not persistent or severe, bilious vomiting. There was considerable but not extreme tympany. Her bowels were constipated, and she suffered pain when they were opened. The quantity of urine was diminished. She voided it frequently, but had not much pain in passing it. She lay upon her back, with the limbs slightly drawn up or extended at pleasure. There was no reaction of the thigh.

Vaginal Examination.—Gave her great pain. The canal was very hot and dry. On the right side of the uterus the tissues were extremely tender, considerably thickened, and bulged downwards. There was no well-defined tumor. Attempts to move the uterus through the vagina gave her great pain. The lochia were nearly suppressed.

Treatment.—This consisted of a fever-mixture of ipecacuanha, neutral mixture, and spirits of nitric ether. Turpentine stups were applied to the hypogastric and iliac regions, and she had introduced twice daily a vaginal suppository containing extract of belladonna.

During the next five days these symptoms continued. At this time the fever disappeared and the pain diminished greatly. At the end of another week she was able to sit up, though very weak. She continued to complain of pain in the hypogastrium, which was not continuous, but came on in paroxysms, sometimes daily, or she had intervals of two or three days' duration, in which she was quite comfortable. The frequency and severity of these paroxysms were increased by any exertion. There was at this time but little tenderness on pressure over the iliac and hypogastric regions, and convalescence seemed to be fairly established.

On February 25 she had a second attack, being seized quite

* *Progress of the case.*—Shortly after this time the swelling upon the left side began to diminish, and gradually disappeared, while it increased in the right iliac fossa, and on April 20 extended above the brim. The uterus was then pushed towards the left side, where there was but little hardness. On May 25 she was discharged well, with the uterus completely adherent, with the os directed towards the left and almost in contact with the pelvic wall of that side. The displacement was a lateral version, the fundus being towards the opposite or right side.

suddenly with fever, abdominal pain, and tenderness. Defecation was now extremely painful, and she complained of great irritability of the bladder. On the 26th and 27th of the month she had rather severe uterine hemorrhages.

Vaginal Examination.—The canal is hot and dry. The uterus is large, and by combined palpation is found to reach nearly half-way to the umbilicus. The os is pushed backwards and to the left side, in which position it is firmly fixed. The right lateral and anterior portions of the vaginal cul-de-sac are filled by a firm, hard, tender tumor, which is nearly regular in outline. The margins of the mass are sharply defined. The tumor is separated from the uterus by a narrow sulcus or furrow. It is easily reached by the finger in the vagina, and by bimanual palpation some hardness can be detected in the right iliac fossa, but there is no induration above the superior strait of the pelvis.

This paroxysm lasted about five days, when the fever again disappeared and the pain abated. After this she complained of weakness, and occasionally suffered pain, but was able to walk about until yesterday, March 24, when she had a third attack, with fever and pain.

Present Condition, March 25.—She is very pale and anaemic. Sclerota pearly. Countenance anxious. Skin dry and hot. Pulse 120, weak and compressible. Respiration 20, not painful. Tongue covered with thick yellowish-white fur. She has neither nausea nor vomiting, and but little tympany. The bowels are constipated, and defecation is exceedingly painful. She voids her urine frequently and with much suffering. The secretion is normal, except so far as it has been affected by the fever.

Vaginal Examination.—The uterus has not diminished in size since the last examination. It is firmly fixed, and the os, which is pressed back into the hollow of the sacrum, is slightly elevated. The induration upon the right side of and anterior to the organ has extended, and involves the left lateral vaginal cul-de-sac, filling it with a firm, hard tumor. Bimanual palpation reveals but little induration in the left iliac fossa, but upon the right the tumor now extends about two finger-breadths above the brim of the pelvis, and if pressure is made upon its upper surface, the impulse is perceptible to the finger in the vagina. The tumor, however, moves but slightly. It appears to rise up out of the cavity of the pelvis, and the abdominal walls move over it. No connection between it and the uterus can be detected. It appears to occupy the whole of the pelvic cavity to the right of the womb. The tumor is as dense as fibro-cartilage, and the inferior surface is slightly, and the superior more decidedly, irregular in outline. There is no evidence of fluctuation.*

To some of you, gentlemen, this history may appear somewhat minute; but every word of it seems to me to be important. I hope that the leading symptoms of the case are firmly impressed upon your minds, as it is an almost typical example of the disease which it is brought here to illustrate.

I desire to direct your attention to the following points: the acute character of the affection; the severe lancinating pelvic pain, with tenderness, first in the median line and confined to the uterus, and later in the right iliac fossa, followed by induration, which progressed until it produced uterine displacement and a pelvic tumor, felt successively in the right, the anterior, and the left sides of the vaginal cul-de-sac.

In many particulars the two cases which have been presented to you are alike. In both, the disease was acute. Both had fever and sharp lancinating pelvic pain and induration, with uterine fixation and displacement. In both, the swelling or tumor could be felt above the brim of the pelvis: in the former, on the left, in the latter, on the right side. The tumor thus produced was tender in the first stage of the disease in both patients, but in the second case also during the paroxysms. The tumor is exceedingly hard, and especially in the second girl it is as firm as a fibroid tumor. In neither

can any connection between the diseased mass and the uterus be traced, for there is a narrow furrow or sulcus separating them, while the impression given to the examining finger in both instances is that the tumor projects from a portion of the uterine surface just beyond the point which we can touch through the vagina.

The two cases differ, however, in certain very important particulars, for the first patient is a non-puerperal and the second a puerperal woman. In the first, the disease pursued a uniform course and the pain was constant. In the second, the disorder is paroxysmal, and the exacerbations have occurred from the 20th to the 25th of the month for three successive periods. Because there are these differences in the clinical histories of these patients, and because the affection has occurred when the two women were in conditions as widely separated as day is from night, you must not be led into the error of believing that the disorder is not the same, for the nature of the morbid condition is alike in the two cases, though its cause is very different, and in one it is modified by the puerperal state.

In regard to the nature of the disease, there are three affections from which women may suffer and present symptoms such as have been detailed in these histories. They are pelvic hematocoele, pelvic cellulitis (parametritis), and pelvic peritonitis (perimetritis); and it is now to be determined which of these afflictions we have to treat in these patients.

By pelvic hematocoele is meant an effusion of blood into the cellular tissue around the uterus or upon the surface of the pelvic peritoneum. It is an acute affection, and is attended with pain in the pelvis, but, unlike the disease in these cases, it is at the outset unassociated with fever. Indeed, owing to the hemorrhage and the distention resulting from it, we would look rather for a cool than a hot skin, and for a feeble than a frequent, strong, full pulse. In both these patients fever was among the earliest symptoms. It is true that we may have fever in pelvic hematocoele, but it comes on as a secondary symptom, appearing some hours or days after the commencement of the affection, as the result of the irritation produced by the effused blood. In pelvic hematocoele we have a tumor, as in the patients before us, but this in the early stages of that disorder has not the characters which are so prominent in these cases. Instead of being hard, dense, and slightly irregular, it is soft and boggy, and impresses one with the idea that the pelvic peritoneal pouch is filled with a fluid or a soft solid. Moreover, the tumor in pelvic hematocoele forms more rapidly than it did in these women, especially the second, in whom the disease had existed several days before there was any distinct induration. Lastly, the induration in both the cases before you occupies the lateral and anterior portions of the vaginal cul-de-sac, while in pelvic hematocoele the retro-uterine pouch is the part chiefly and most frequently involved, and consequently in that disease the uterus is displaced in a direction precisely the opposite of that which it has taken in these women. Moreover, hematocoele is a rare disease, and is apt to occur at the menstrual periods. Though not so stated in the history, the non-puerperal patient was not menstruating when she was taken ill. In view of these facts, we may therefore safely conclude that we have not in either of these patients an example of pelvic hematocoele.

In speaking of the other two diseases, I feel that I am upon dangerous ground. Every characteristic feature of the illness of both of these girls points to the fact that the disorder is a pelvic inflammation,—that it is a cellulitis or a peritonitis, but it is exceedingly difficult to decide which.

Dr. Thomas, of New York, has carefully laid down points upon which the diagnosis is to be made, and in the original edition of his book upon Diseases of Women

* *Progress of the case.*—During the succeeding month she improved rapidly, and was discharged April 20, the intra-pelvic hardness remaining. That above the brim had totally disappeared.

he stated positively, that "a neglect of such thorough diagnosis is as culpable as a similar want of care in determining between pericarditis and endocarditis." Dr. Thomas has reiterated this statement in the second edition of his work,* and I cannot but believe that, in making it, he has gone much too far; and, after a very considerable experience in the two diseases, in which I have tried to make the most of my opportunities, I am convinced that the diagnosis between pelvic cellulitis and pelvic peritonitis is by no means easy, and that it is often impossible to say which is present in a given case. I do not hesitate to say, further, that the symptoms and physical signs upon which Dr. Thomas lays so much stress are utterly insufficient to enable a physician to arrive at a correct diagnosis.

As Dr. Thomas' work is deservedly a standard authority, and one which is likely to fall into your hands at any time, it will not be amiss for us to study in detail the points upon which he bases his diagnosis and makes the singular statement just quoted from both editions of his book,—the latter published in 1869.

His table has been copied upon the blackboard before you:

Pelvic cellulitis.

1. Tumor easily reached; generally felt in one broad ligament, and may be felt above the pelvic brim.
2. Marked tendency to suppuration.
3. Abdominal tenderness chiefly over one iliac fossa.
4. Tumefaction generally noticed laterally in the pelvis.
5. No constitutional signs of peritonitis present.
6. Tendency to monthly relapses not marked.
7. Retraction of thigh not rare.
8. Pain severe and steady.
9. Facies not much altered.
10. Nausea and vomiting not excessive.
11. Does not necessarily displace the uterus.
12. Not accompanied by tympanitis.
13. Uterus fixed to limited extent.

Pelvic peritonitis.

1. Tumor very high, only in the vaginal cul-de-sac; does not extend above the superior strait.
2. Suppuration rare.
3. Abdominal tenderness excessive above the brim of the pelvis.
4. Generally noticed near or upon the median line.
5. Constitutional signs of peritonitis present.
6. Tendency to relapse every month very marked.
7. Retraction of thigh never occurs.
8. Pain excessive and often paroxysmal.
9. Facies very anxious.
10. Nausea and vomiting often excessive.
11. Always displaces the uterus.
12. Always accompanied by tympanitis.
13. Uterus immovable on all sides.

Positive as are these statements, and high as is the authority which has proclaimed them, I confess that I am unable to apply them practically at the bedside; and if you will examine Dr. Duncan's work† upon this subject, you will find that he makes the same acknowledgment. If we attempt to apply his elements of diagnosis in the two patients before us, I think we shall fail.

In both instances the tumor extends above the pelvic brim, which, according to Dr. Thomas, is in favor of cellulitis. In the first or non-puerperal woman this occurred early, for it was present at my first examination, while, in addition to this, a tumor was felt in the left vaginal cul-de-sac; in short, it filled the whole of the left half of the pelvis. You should remember, however, in regard to our puerperal patient, that induration did not extend above the pelvic brim until after the third paroxysm had supervened, and that previous to the second the hardness could not be felt except through

the vagina, and from thence it extended up and advanced from the right to the left side. This slow progress, however, is not the constant history of pelvic peritonitis, for I have met with induration above the pelvic brim in several patients within a few days after the commencement of the disorder. Bernutz, whose name is so closely associated with this disease, states positively‡ that the tumor of a pelvic peritonitis may be felt, just as in both of these women, two or three finger-breadths above the superior strait; and he further says that this fact is of some importance in the diagnosis, because in peritonitis the abdominal walls move over the tumor, while in cellulitis the inflammation is apt to travel outward and involve the cellular tissue of the iliac fossa and the abdominal wall. Upon careful examination of both of these women, made as I now show you, the swelling appears to be seated entirely within the pelvic cavity. The parietes of the abdomen move over it as though they were in no way involved in the disease. Therefore, notwithstanding Dr. Thomas' declaration, I cannot but believe, after considerable experience, that the tumor produced by pelvic peritonitis not infrequently extends above the brim.

Dr. Thomas asserts that the tumor in pelvic cellulitis is "easily reached," while in pelvic peritonitis it is "very high, only in the vaginal cul-de-sac." The ease with which the pelvic tumor is reached depends much, if not entirely, upon the duration and severity of the disease, and upon the mode in which the examination is made. From the commencement of the illness of both of these women until the present time the tumor was easily reached through the vagina, and in the non-puerperal woman, in a very short time, by pressure downwards in the left iliac fossa.

The statements of our author in this particular are very loose. If he means that the tumor of cellulitis is easily reached through the vagina, his statements would mislead you, for induration in the vaginal cul-de-sac in peritonitis is very easily touched,—much more so than cellular swelling in the broad ligaments.

On the other hand, if Dr. Thomas intends to say that the cellular tumor is easily reached by pressure downwards in the iliac fossa, he may be equally in error, because the connective tissue of the broad ligament is not by any means the constant seat of cellular inflammation and suppuration in the pelvis, for it may be located beneath the peritoneum of any portion of the sides of the pelvis, or in the connective tissue at the side of the uterus, just opposite the lower portion of its body and upper part of its neck. In the former case the tumor may be as difficult to detect by pressure in the iliac fossa as by a vaginal examination; and in the single instance of the latter that I have ever seen (and the diagnosis was proved to be correct by autopsy) the swelling could be felt only by the vagina, in which manner it was easily reached.

You heard in the history of the puerperal patient that the tenderness was first noticed in the median line, and that it was distinctly uterine for two days. From thence it extended to the right iliac fossa. This is, I believe, the ordinary history of puerperal pelvic peritonitis, and a very important point is involved in it. Dr. Thomas states, however, that the tenderness is excessive above the brim.

The tumefaction, according to the same author, is generally situated in the lateral portion of the pelvis in cellulitis, and is near or upon the median line in peritonitis. In both the patients who have been presented to you to-day the swelling is more marked upon one side than upon the other,—on the left in the non-puerperal

* Diseases of Women, p. 380.

† Perimetritis and Parametritis, p. 199.

‡ Clinical Memoirs on Diseases of Women, p. 85, New Sydenham Society's Publications, 1866.

and on the right in the puerperal woman; but in both it involves three sides of the uterus, displacing and immovably fixing the organ in both cases. It is, I believe, perfectly true that in cellular inflammation, whether it affects the broad ligament, or the tissue adjoining the lower portion of the body of the uterus, the tumor produced occupies the lateral portion of the pelvis. But it is not true that the induration of peritoneal inflammation is always situated upon or near the median line, though the statement is probably correct in the larger number of cases.

In both of these women, as you have already heard, the tumor occupies three sides of the uterus, but in one—the puerperal case—the induration was first felt low down in the right vaginal cul-de-sac. The statement of Dr. Thomas probably applies to a class of cases, and it may comprise the larger number, in which the recto-peritoneal pouch is the part primarily involved. In other instances, there is every reason to believe that the inflammation has its commencement in the peritoneum which covers the Fallopian tubes, the ovaries, and the broad ligaments, and that from thence it spreads downwards and towards the opposite side, until it involves a larger portion or all of the pelvic peritoneum. This may seem like a needless refinement, but the most careful and minute observation is the only means by which the subject will ever be liberated from the uncertainty and doubt which now surround it. I am convinced that in certain instances the disease has such a commencement, by several cases which have come under my observation. One such occurs to me at this moment. A woman, aged 49, was suffering from fibroid polypi of the uterus. Pelvic peritonitis supervened, and a tumor formed in the left lateral vaginal cul-de-sac. She perished from this, and at the autopsy we found an abscess situated behind the left broad ligament, pushing it forward, and shut off from the general peritoneal cavity by adhesions between the small intestines and the sigmoid flexure, above and between a fold of the ileum and the left margin of the enlarged uterus at the side. Before death, the pain and tenderness were so great that it was impossible to tell whether the uterus was fixed or not; but at the autopsy the enlarged organ was not materially pushed towards the right side of the pelvis, but was rotated upon its axis, the left margin being carried forward. Its mobility was somewhat impaired, but not entirely destroyed, while the pelvic tumor could be felt in the left lateral cul-de-sac and a little behind. Section of the body a little later proved the inflammation to have been entirely peritoneal. The tumor contained about four ounces of pus. If Dr. Thomas' statements are correct, cellulitis rather than peritonitis should have been diagnosed in this instance.

Dr. Thomas expresses the opinion that in pelvic peritoneal inflammation the characteristic constitutional signs of peritonitis are present. This is by no means always the rule. In neither of the patients who have been before you to-day were these at all marked, and in the non-puerperal woman they were entirely absent. Yet you may as well know now as later that I believe they both had perimetritis (pelvic peritonitis). This opinion that the peculiar phenomena of peritonitis may be absent is confirmed by numerous examples of the puerperal variety of the disease which have occurred in this hospital since January, 1870, and by repeated autopsies before and since that time. Indeed, one important fact in regard to the disorder is that it may be latent, as has been shown by numerous observers, and as you may see for yourselves if you will study the previous histories of the patients, and then attend the numerous autopsies made in the dead-room just without this amphitheatre.

In the history of the puerperal woman who has been before you, you have heard a very distinct account of

periodical exacerbations of the pain, tenderness, and fever recurring about the 25th of every month. Dr. Thomas calls attention to the diagnostic value of these relapses in peritoneal inflammation, and in this he is in the main correct. In cases of cellulitis, the nature of which I have proved by autopsy, marked monthly relapses have not occurred, while in peritonitis these are of a very common occurrence, but may be absent, as in our non-puerperal patient.

Retraction of the thigh, the same authority states, is not rare in cellular inflammation, and never occurs in peritonitis,—an opinion which my own experience confirms; but it has happened that in three cases of puerperal pelvic cellulitis which occurred in the wards during the last year, and the last three which I have confirmed by autopsy, retraction of the thigh was not present, though there were abscesses in the cellular tissue. I would have you remember Dr. Thomas' own words, that the symptom is "not rare," and I would add that its absence does not necessarily militate against the existence of cellulitis.

Is it worth while, gentlemen, to pursue this discussion any further? I believe that enough has been said to prove that, able as he is, positive as his statements are, Dr. Thomas has not pointed out the way in which we are to go to distinguish pelvic cellulitis from pelvic peritonitis.

This position is taken with all due deference to the learned gentleman and the successful writer and clinical teacher who has been quoted, but it is done because I have failed, after having honestly tried to apply the elements of diagnosis which we are discussing at the bedside, and because I think that clinical experience and post-mortem observation have proved the unreliable nature of his diagnostic characters. I hesitate less in making this acknowledgment because Dr. Mathews Duncan, of Edinburgh, in his work on "Perimetritis and Parametritis,"* writes that he has met with the same difficulty.

I fear, however, that I have nothing better to offer you. The opinion that these are both cases of pelvic peritonitis has already been expressed, and is based upon the following facts:

1. The extreme suffering produced by any attempt to move the uterus (in vaginal examination) even in the early stages of the disease.
2. The fixation of the uteri of both women, which happened early in the disease.
3. The displacement of the organs, which is great in both patients.
4. The extent of the inflammation, and the fact that the inflammatory tumor involves three sides of the vaginal cul-de-sac.
5. The absence of marked tendency to suppuration.
6. The fact that peritonitis is a much more frequent affection than cellulitis. This remark is especially applicable to our non-puerperal patient, in whom the diagnosis is the more difficult. It is an established fact, however, that pelvic peritoneal inflammation is a very common affection in non-puerperal women, while cellulitis is an exceedingly rare one.

7. In the other woman (puerperal), the monthly relapses are important in diagnosis, and support the opinion in favor of peritoneal inflammation.

It must be admitted, however, that these signs are very unreliable, and that in the present state of our knowledge one must hesitate about stating the grounds upon which he bases his conclusions. It is my strong conviction, too, that cases will frequently occur in which you will be unable to decide the true nature of the disease, for the simple reason that cellular and peritoneal inflammation are combined. I have met with several

* Page 197.

such in which abscesses of the cellular tissue, accompanied by peritonitis, were found at the autopsies.

There is much about both of these affections which is yet to be elucidated, and it may be for some of you to describe the characters which will dispel the doubt and uncertainty which now overshadow them. I commend the subject to you, not only on account of the great frequency, and hence great importance, of these affections, but also on account of the extreme interest which they possess. Practically it is no serious matter to be unable to distinguish peritonitis from cellulitis, for our therapeutics are not now sufficiently precise to enable us to adopt very different treatment for the two diseases.

ORIGINAL COMMUNICATIONS.

THE WEST PITTSTON DISASTER.

BY J. T. ROTHROCK, M.D.,
Wilkesbarre, Pa.

ON May 27, 1871, at 2.40 P.M., smoke was discovered issuing from the top of the coal-mining breaker worked by Blake & Co. In half an hour the entire building was wrapped in flames. It was situated immediately over the mouth of the shaft (280 feet deep) by which the mine was entered; and when the car ascended for the last time, thirty-eight men remained below. No second shaft existed for the entrance of air or for the escape of the men. Hence the provision for proper ventilation of the mine was at best inadequate. It appears to be admitted on all sides that there was not air enough for more than twenty men while the shaft was intact and the fans working; yet nearly double that number were confined there at the time of the accident, under circumstances the most unfavorable to life. The intelligence of this fearful disaster (second only to that of Avondale in the mining history of the country) spread from point to point along the lines of telegraphic communication, and soon thousands of men were assembled on the spot, either for the purpose of aiding to rescue the imprisoned men, or for that of gratifying an idle curiosity.

About 2 A.M., or twelve hours after the fire began, the first man was rescued. The last was taken out seven hours later.

Now that the excitement has subsided, we may ask ourselves, What have been the medical lessons taught by this appalling accident? Of the thirty-eight men left in the mine, seventeen were taken out dead and twenty-one alive,—some three or four of these dying subsequently.

To what was death due in those who succumbed before reaching the surface? Was it to the inhalation of carbonic acid or carbonic oxide? The conditions for the generation of both were present in the burning shaft. Perhaps we may eliminate the latter from the problem when we remember its promptly poisonous action in even small quantity, and bear in mind the fact that some men were taken out alive after from sixteen to nineteen hours' confinement. Or was the mortality due to the draught caused by the burning breaker and shaft abstracting the atmospheric air,—or to this plus the subsequent accumulation of animal exhalations,—or to all combined? The last is probably the correct view. When the men below understood the state of affairs, they immediately began to erect barricades, to prevent the ingress of smoke and the egress of air. This done, they took refuge behind the second or innermost one; and, so far as we can learn, these barricades did, to a certain extent, answer the purpose for which

they were intended. Two men went at a time to the outer barricade, to listen if any efforts were made for their relief. Now, from the statement of Robert Smallcombe, it appears that Morgan and Curtis were the first to become insensible, they being found at the outer barricade: the former alive, the latter dead, with his face in the water,—evidently drowned. Granting that these men were the first to lose consciousness, why was Morgan rescued alive? We imagine, because he was so near the foot of the shaft,—the place from which the air was first abstracted being the place to which it would first return when the fire was extinguished and the communication with the surface established. That a certain quantity of air reached the bottom of the shaft, and, indeed, remained there throughout, we may infer from the fact that at 1.30 A.M., when the first relief-party descended, they saw a live mule standing on the track, and a kerosene-lamp burning, while we are told by Thomas Savage that as late as 10 P.M. the lamps behind the inner barricade were burning dimly. The stream of water running through the mine appears to have had a preservative influence, as the Smallcombe family, who lay down by its side, "*drinking a little of it occasionally,*" were the last to become insensible.

When rescued, the condition of the survivors was as follows: Pulse feeble, slow, and intermittent. Respiration slower than normal, and interrupted apparently by spasmodic closure of the glottis. (One man on recovering stated that his most unpleasant sensation was a feeling of soreness or constriction about the throat, as if he had been choked.) The breathing was stertorous. The pupils were dilated or contracted, seldom natural. There was certainly engorgement of the lungs, and probably congestion of the brain or its meninges. Some of the patients, shortly after they were rescued and actively treated, could be roused to look about them for a moment, and, perhaps, to answer a question in a mechanical sort of way, but would relapse immediately afterwards into profound stupor. Trunk and extremities were cold.

In the *ensemble* of symptoms we recognize more than simple asphyxia, or its equivalent, apnoea,—*i.e.* simple deprivation of atmospheric air. In addition to this there was narcosis and its accompanying coma. Dr. Dennis observed this at once. The narcotizing agent must have been carbonic acid. We may safely infer that death began at the brain, for the sensorial functions were first of all abolished, the condition of coma being quickly followed by apnea proper, the burden of the former falling upon the brain, of the latter upon the heart and lungs,—which continued to act after all sensibility to external impressions was lost. It is noteworthy that the mortality among the plethoric was fearful, while the more spare gave a good percentage of recovery. To this general proposition there were exceptions, but it is true in the main. When the first class were brought out alive, there was an apoplectic cast about them, which correlated the narcosis with profound stupor and a tardy restoration to consciousness. The second class rallied much more promptly. This is quite in accordance with the well-known fact that the effects of confined air do not so speedily manifest themselves on the weak as on the strong,—on the female as on the male. It is also probable that the temperature of the mine had something to do with prolonging life under such unfavorable circumstances. Had the temperature been some degrees lower, it is not likely a man would have reached the surface alive. The gradual change from pure to impure air also tended to induce a tolerance of the vitiated air.

It is a matter of great regret that no post-mortem examinations could be obtained, and we are consequently unable to reason from demonstrated pathology. The sudden transition from the mine to the surface

seemed for the time to aggravate all the alarming symptoms. Hence, had it been possible, it would have been better, perhaps, to have limited the access of the air to the lungs at first. A few of the men vomited a dark, glairy, frothy fluid, and seemed relieved by it.

The treatment consisted in the usual restoratives,—*i.e.* diffusible stimulants, hot applications, friction, etc. Though these saved a number that must have died but for their use, their action was at times extremely slow. Narcosis was the cause of an apoplectic condition, for which no stimulant could do more than sustain the powers of life until the poison passed off.

Phlebotomy now suggests itself as a probable step in the right direction for the worst of these cases; not abstraction of blood in the stinted measure of cupping, but in a full stream from the jugular vein, the amount taken to be regulated entirely by the effect produced. Thus the pressure on the brain from the blood, which was dammed back from the right side of the heart, would have been removed, and with the flowing blood there would have been abstracted also a large measure of the narcotic poison,—carbonic acid. In the venous blood of health there is about five times as much carbonic acid as oxygen: how much greater must the proportion have been in these sufferers! Granting, too, that carbonic acid is the natural stimulus to the medulla oblongata and to the right side of the heart, in normal quantity, *it by no means follows that it is so when present in overwhelming proportion.* Opium in small doses is a cerebral stimulant, yet increase the dose, and narcosis supervenes. In this connection it may be remarked that at one time there were not wanting good authorities to suggest that the narcosis produced by opium might be due to retention of carbonic acid in the blood.

As regards the effect of free bleeding upon the engorged pulmonary capillaries, nothing can be more to the point than these quotations: "An essential fact in asphyxia is the retardation and subsequent arrest of the movement of the blood through the pulmonary capillaries," and "the relief or removal of that condition is the turning-point of success in all attempts at resuscitation."—(*Marshall's Physiology*, American edition, 1868, p. 857.) "If, indeed, the state of over-distention be relieved by puncturing the right auricle or the great veins, the right ventricle will begin to contract, while the left ventricle may once more be excited by duly-arterialized blood."—(*Marshall*, p. 851.) These quotations refer to a state of complete, or nearly complete, asphyxia, when the heart has just ceased to beat, retaining, however, its contractility, providing the tension be removed. But surely they are as applicable to the less marked cases of which we now write. Small and uncertain as was the pulse in the Pittston sufferers, there would have been no more danger to the patient from free venesection than in those cases of puerperal convulsions attended with a like condition of pulse. There are few physicians of any extended experience who have not seen the pulse of the eclamptic parturient female become large, soft, and regular as the blood flowed in a full, free stream. In many respects the symptoms simulated those of eclampsia gravidarum, and only served to connect by a stronger parallelism the indication for a similar treatment.

If venesection had started the circulation, would it not also have caused an alarming condition like that induced by a too sudden exit from the mine into the air? We think not; for in the latter case the imperfectly-aerated blood, charged to repletion with carbonic acid, was thrown again and again upon the lungs, to have its poison slowly eliminated by them, whereas venesection, removing more of the poison than of oxygen, must have in so far tended to relieve that very condition. The one case would have been a restoration to air with the cause of the trouble remaining,—the other, with it

removed; and, such being the case, there was no legitimate ground for the inference that this danger would have followed the opening of a vein.

It is a matter of regret that the attention of the physicians was so exclusively required by the living as to leave no time for attention to those in whom life was apparently extinct. We have no ground of hope that any of those who reached the surface with the action of heart and lungs stopped could have been restored. The history attending the recovery of the survivors banished all hope for the others.

Throughout the whole of the terrible scene the physicians from Pittston and neighboring towns were on the spot, rendering prompt, cheerful, and invaluable assistance.

MEDICAL NOTES.

No. III.

BY JAMES E. REEVES, M.D.,
Wheeling, W. Va.

III.—SCARLET FEVER.

THERE is probably no disease which ends fatally in so many different ways as scarlet fever,—no disease in which in its very beginning death may more suddenly and unexpectedly occur. Sometimes in the very midst of artless merriment and play, the patient is convulsed, struggles a moment, and is dead! In other cases the disease is so mild that its subjects are not thought sufficiently sick, by their parents or friends, to be confined to the house, much less to the bed. Again, the attack may be seemingly of moderate severity, and yet the patient is cut off by closure of the throat from the intensity of the inflammation, or by exhaustion and sudden yielding of the vital powers. And even should the beginning of convalescence be reached, there are still numerous dangers in the progress towards health,—dropsy, abscesses about the neck, etc.,—which, if they do not fatally interrupt the process of recovery, may scar and cripple the patient for life. There are but few children, indeed, that have passed through a severe attack of scarlet fever who do not in some form carry with them ever afterwards through life the *impress* of the dreadful malady.

The best general plan of treatment for the largest number of cases is—

1. Confinement in well-ventilated apartments, and the observance of perfect cleanliness. From first to last, feed the patient bountifully.

2. The tepid bath once or twice a day, or the warm bath in the beginning, and the administration of stimulant medicine, if reaction is tardy or imperfect.

3. In many cases the following mixture of murate of ammonia and chlorate of potash is the only medicine required to conduct the case to speedy convalescence:

R.—Ammon. Mur., gr. xxx;
Potass. Chlor., gr. xxv;
Aqua,
Syr. Simplic., $\frac{ii}{iii}$, $\frac{3}{j}$. M.

S.—A teaspoonful every hour or two for a child four or five years of age.

Or the chlorine and iron mixture may be substituted for the above (see treatment of diphtheria, Notes No. II.), and used as a gargle or in atomized spray, as well as administered in the dose of from twenty drops to a teaspoonful every hour or two, according to the urgency of the case and the age of the patient. If inclined to constipation, the bowels should be kept open by the citrate of magnesia, or by some other simple laxative medicine.

4. Warm wet cloths, folded on oiled silk, should be kept constantly applied to the throat. Cold water and milk for drinks.

5. Bromide of potassium, to diminish nervous impressibility.

6. Diuretics, iron, quinia, wine, warm and sufficient clothing.

7. The sequelæ must be treated as they present themselves: each trouble has its own indications for treatment.

8. Finally, I submit that, notwithstanding the great dissimilarity of scarlet fever and diphtheria, the successful treatment of the one has much in common with best treatment for the other. Feed the patient, and thus "keep him alive until he recovers."

IV.—CHOLERA INFANTUM.

This constant summer visitant of all cities and towns constitutes the chief source of mortality among children during the period of first dentition. Indeed, its prevalence is a most unerring sanitary monitor, and when the little ones perish, there exists danger to the health of the surrounding population.

The most satisfactory plan of treatment, according to my experience, is the following:

1. If the case is ushered in with frequent vomiting and purging,—in a word, should collapse be threatened in the beginning, as frequently happens,—external warmth, sinapisms, milk-punch, chloroform, etc., are absolutely essential to the life of the patient. It is well known that vomiting is one of the most obstinate symptoms belonging to the disease, and sometimes diminishes more than diarrhoea the chances of recovery. Not only is there the almost instant ejection of nutriment, but also of the medicine on which the safety of the patient depends. To relieve this symptom, I am in the habit, first, of giving the following mixture:

R.—Plumbi Acet., gr. xij;

Morph. Acet., gr. ss;

Sacch. Alb., ʒiss;

Aceti Destil., ʒss;

Aquaæ, ʒij. M.

S.—A teaspoonful to a child from one to two years of age after each act of vomiting.

Should this fail to quiet the stomach, then from ten to fifteen drops of the "*chloroform paretic*" in a spoonful of ice-water may be given every half-hour. This dose I have found to act promptly in many cases in which the lead mixture had entirely failed to impress the stomach.

2. So soon as the vomiting is controlled, the subnitrate of bismuth, in the dose of from three to five grains, should be administered:

R.—Bismuth. Subnitrat., gr. xxxvj;

Crete preparata, gr. xx;

Pulv. Doveri, gr. v. M.

Make twelve powders.

S.—One every three or four hours, and continued until convalescence is fully established.

In very many cases the bismuth may be exclusively relied upon for the cure of cholera infantum. Indeed, it is capable of accomplishing more general good in this disease than any other remedy or combination of remedies with which I am acquainted. For many years I have employed it not only in the disease under consideration, but also in every form of infantile diarrhoea, and with the most gratifying results.

3. The daily tepid bath, alimentation, and an abundant supply of pure air are important elements in the management of the disease. Nothing in the way of food should be inhibited which the appetite craves and the stomach will receive kindly. I am well convinced that injury has often been done by confining the little

sufferers to a milk diet, under the mistaken idea that the stomach should not or cannot take anything else. Ice-water, animal essences, ripe fruits, and vegetables are not less useful and grateful to sick children than to adults. The caution should be more as regards quantity than quality. In chronic cases, accompanied with debility and marked emaciation, quinia and cod-liver oil may be administered. The latter generally agrees well with the stomach, if the bismuth is at the same time employed. If the oil cannot be taken by the stomach, it should be employed by inunction.

V.—PNEUMONIA.

In the treatment of this disease, general bloodletting is now scarcely employed; and even cupping has gone out of use,—if not entirely, to such an extent that it has become a very unusual resort in practice. I am sure I have not bled a patient from the arm in the last ten years. Neither are blisters and pustulating oils and ointments so frequently employed as formerly; and I am confident that at least this very great change in practice has not been followed by an increased death-rate. And it is a further well-known fact that under the influence of this modified plan of treatment—veratrum viride, chlorate of potash and muriate of ammonia, quinia, iodide and bromide of potassium, rubefacients, fomentations and the oiled-silk jacket, beef-tea and wine—the average duration of the disease, including also the period of convalescence, has not been prolonged.

There are exceptions, however, to all rules, particularly in medical practice; and in almost every community there may yet doubtless be found the Doctor Van, who, regardless of the piteous cries of faint-hearted men, women, and children with tender skins, adheres strictly to *first principles*, and in cases of

"Lung-fever threatening,—something of the sort,—
Out with the lancet! let him bleed,—a quart;
* * * * *
Ten leeches next will help to suck it out;
Then clap a blister on the painful part,
But first two grains of antimonium tart.;
Last, with a dose of cleansing calomel,
Unload the portal system,—that sounds well."

(To be continued.)

AN UNRUPTURED HYMEN COMPLICATING LABOR.

BY P. S. LEISENRING, M.D.,

Anville, Pa.

ON the morning of May 27, 1871, I was called to see Mrs. B. in her first confinement. She is a well-formed, healthy woman, aged 28; has been married over two years, and has always enjoyed good health, except at her menstrual periods, when she has suffered greatly. On my arrival, I was told that she had been in labor for several hours. I found her pains regular and tolerably severe. In attempting to make an examination, I was very much surprised at finding the vagina completely closed by an *unruptured hymen*. I carefully examined for an opening large enough to insert the end of my finger, so that I might enlarge it sufficiently to make the necessary examinations and deliver the child, but could find none, the hymen forming a complete septum, closing the vagina with a dense, thick, unyielding membrane, through which I could feel what I supposed, and afterwards proved, to be the head of the child. After using considerable force with my finger to rupture the hymen, and failing to do so, I explained to the family the nature of the difficulty, and informed them that the only remedy was an incision, assuring them that there was no cause for alarm. On making a careful ocular examination, I found about the

centre of the membrane a small orifice, large enough (after some effort) to introduce an ordinary female catheter. I inserted a grooved director, and with a sharp bistoury made two incisions large enough to introduce my finger, with which, after considerable effort, the opening was gradually enlarged. I found the *os tince* dilating nicely and labor progressing favorably. After five hours of severe labor (the external parts being excessively rigid), I delivered her of a plump, healthy, female child. She had speedy recovery.

In upwards of nineteen years of active practice, this is the first case of the kind I have met with; and on inquiring of a number of old practitioners, I learn that none of them has ever met with a similar case. I find, also, that most of the authors on obstetrics do not mention an unruptured hymen as one of the causes of difficult labor. Ramsbotham, in his excellent work, mentions but two cases having been met with in his own and in his father's practice. Dewees mentions having been called in consultation to one case. Bedford and other authors do not refer to the matter at all. I can scarcely understand how my patient became impregnated through so small an opening. It proves beyond a doubt that an *unruptured hymen is not an infallible test of virginity*. Although my patient had been married for more than two years, neither she nor her husband knew of the existence of the hymen.

CATARRH OF TYMPANUM FROM USE OF THUDICHUM'S NASAL DOUCHE.

BY GEORGE C. HARLAN, M.D.,

Surgeon to Wills Ophthalmic Hospital.

J. B., a conductor on one of the city cars, had been in the habit, for the relief of a chronic nasal catarrh, of passing a stream of salt water through the nares by means of Thudichum's douche,—usually daily, sometimes several times during the day,—for more than two years. Two weeks before he called at my office, it occurred to him that the efficiency of the application might be increased if he could "get the wash higher up in his head." He accordingly proceeded to stop the flow from the free nostril by pressing his finger against it. A stinging pain in the left ear immediately attested the success of the experiment. He suffered intense pain during the night, and increasing agony the next day, until, at the end of twenty-four hours, sudden and great relief accompanied the appearance of a discharge from the meatus. When I saw him, there was still great pain, with a high degree of deafness, and a "constant roaring, like the escape of steam, in his ear." My watch could be heard only when pressed against the ear. The membrane was congested, dull, and opaque, and the Eustachian tube was impervious by the Valsalvian method. Air could be forced into the tympanum by the Politzer inflator, which increased the hearing-distance for the watch to four inches. Under the use of a gargle to the throat, warm douche to the meatus, and "air-bath" to the tympanum, he is improving rapidly, and is likely to regain the full use of the organ.

Of course, the Thudichum apparatus cannot be held responsible for the mischief in this case, but, as the patient was by no means devoid of intelligence, his experience shows the necessity of giving strict and minute instructions when we intrust its use to unprofessional hands. Quite a number of similar accidents have now been recorded, some of them so serious as to endanger not only the patient's hearing, but even his life, and some surgeons have been induced to condemn the use of the apparatus altogether.

As first shown by Weber, when this means of passing a stream through the nasal passages is used, the poste-

rior nares and the upper part of the pharynx are closed in by the drawing upwards of the soft palate. The tensor and levator palati muscles must therefore be in action, and the mouths of the Eustachian tubes held open. The only reason, then, why a part of the fluid used does not always enter the middle ear seems to be that there is a free and ready escape for it through the nostril, while to enter the tympanum it must ascend slightly and force its way through a narrow passage into a cavity otherwise closed and filled with air. When the membrane is destroyed, the stream may be made to pass out through the external meatus. Indeed, when both membranes are perforated, this means might perhaps be used for washing out the middle ear. It would have one advantage over the valuable method recommended by Hinton, of passing a stream in the opposite direction, which I am in the habit of using frequently, and with very satisfactory results, in the fact that the stream would enter by the narrower passage of the Eustachian tube, and pass out by the wider one of the external meatus.

In the present case the bottle was raised about four feet above the patient's head, and the nozzle of the tube was fitted in the right nostril. The right ear escaped, and the fluid entered the left probably because the head was inclined to the left side. It is easy to hold the head in such a position that gravity will favor the passage of fluid into the Eustachian tube rather than through the nostril.

I believe that the causes of this accident, which has brought discredit upon a means of cure or palliation that is very valuable in a large number of cases and can scarcely be replaced in many, are too much force and volume of fluid, some obstruction to its escape from the free nostril, and a lateral inclination of the head. The first and third are very easily guarded against. In regard to the second, it is quite conceivable that one of the large plugs of inspissated discharge, that are frequently washed out in bad cases of chronic nasopharyngeal catarrh, might become impacted in the meatus and obstruct the flow. The danger from this, however, is slight, if we resist the temptation to increase the force of the stream by raising the bottle.

A CASE IN WHICH THERE EXISTED GREAT INTOLERANCE OF IODIDE OF POTASSIUM.

BY JAMES D. MCGAUGHEY, M.D.,

Greeneville, Tenn.

I WAS called to see Eva H—, aged 24 years, who has been suffering some length of time from an injury of the spine, with paroxysmal attacks of painful micturition and derangement of the digestive organs. She was also troubled with a kind of neuralgic rheumatism, which affected alternately the head, kidneys, and other portions of the economy. She was taking iron at the time of my visit, in consequence of her anaemic condition and of some manifestations of a scrofulous diathesis. I prescribed for her the following mixture, to be taken three times daily:

R.—Potass. Iodid., gr. x;

Potass. Acetat., gr. v;

Liq. Potass. Arsenit., gtt. j. M.

About half an hour after swallowing the first dose, the throat commenced to get dry and painful; the power of articulation was lost; the neck began to swell on both sides, until there was no depression beneath the inferior maxilla; the salivary glands became exceedingly active, pouring forth an abundance of saliva.

Cerebral symptoms soon after presented themselves, the patient becoming delirious. I was immediately sent for, but, the patient being eight miles in the country, it was some time before

I saw her. She was then calm, the parents in the mean time having given castor-oil and turpentine. The delirium was gone; the saliva was no longer poured forth so abundantly; the swelling of the neck had subsided considerably, though still apparent to the eye; and the power to articulate was restored. On examining the fauces, I found nothing but redness of the mucous membrane; the tongue presented nothing peculiar.

I was puzzled to know the cause of such a terrible paroxysm; and, although it came on half an hour after the first dose, I was unwilling to ascribe it to the prescription; but the family were firmly persuaded that "the medicine did it." After satisfying myself that the prescription had been properly compounded, I ordered another dose to be given; it was followed by a full repetition of the paroxysm of the previous night. Feeling assured that the patient was the subject of an idiosyncrasy which prevented her from taking some one of the components of the prescription, I ordered it to be discontinued.

About six weeks subsequently, the patient's father came into my office for another prescription. I ordered for her iodide of potassium, gr. x, in syrup of stillingia. One dose of this produced dry throat, loss of articulation, swelling of the neck, tremendous salivation, and delirium, which symptoms passed off in four or five hours,—the parents administering oil and turpentine as before. I now became satisfied the iodide of potassium was the sole cause of the whole concatenation of symptoms, as there was no stillingia in the former prescription; and I now avoid its use in this patient, as I believe a dose of thirty or forty grains would produce fatal poisoning.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY OF PENNSYLVANIA.

CLINIC OF PROF. AGNEW, MAY 31, 1871.

Reported by Dr. Elliott Richardson.

NECROSIS OF FEMUR.

SAMUEL D., aged 41 years, presented a marked enlargement of the left thigh, with a sinus pouring out a fluid which by its character indicated inflammatory disease of the bone, a condition which was apparently the result of a compound fracture of the femur, received seventeen months ago.

On the introduction of a probe, it came in contact with dead bone, detached, and ready for removal.

The patient was unable to flex the knee, a condition which, as the patella was found to be free and movable, Prof. Agnew thought was due to bony thickening about the joint, and that on removal of the necrosed portion of the femur its usefulness would probably return.

The patient not being prepared to submit to an operation, it was deferred.

HYDROCELE WITH COMPLICATIONS.

This patient, forty-four years of age, had a swelling of the right scrotum.

This swelling was confined to the region of the testicle, and did not extend along the cord to the abdominal ring. When the patient coughed there was no sucession perceived. On a recumbent position being assumed, there was no retrocession of the tumor, nor could the finger be introduced into the abdominal ring. In the absence of all these symptoms of hernia, the next consideration was, as to the portion of the scrotal contents affected. The tumor was not firm enough for disease of the testicle. It had not been examined by transmitted light, but had the external appearances of hydrocele; and, as there was some sensation of fluctuation, an exploring-needle was introduced (a procedure which should always be adopted where there is any doubt of the nature of an enlargement), and a straw-colored fluid escaped. A trochar and canula were now introduced, and a moderate amount of serum

was drawn off. After this fluid was removed, an induration or enlargement of the vas deferens was distinctly felt, and also a tortuous and dilated condition of the veins, which seemed to be glued together.

Prof. Agnew thought this condition of the parts was probably the precursor of future trouble of a serious nature in the testicle, which might be hastened by the injection of tincture of iodine,—a treatment which in all cases of uncomplicated hydrocele offers the best prospect of effecting a permanent cure. It was therefore in this case omitted.

This patient had presented himself at the University Surgical Dispensary about two weeks before this operation, having at that time a much larger hydrocele of the left side than that of the right.

The fluid was drawn off by Dr. Hunter from the left side, and a diseased condition, similar to that described as existing on the right side, but of smaller extent, found to exist.

ANCHYLOSIS OF METACARPO-PHALANGEAL JOINT.

This boy, by occupation a moulder, received in December, 1870, an injury of the soft parts of the right hand by the explosion of a pistol. This was followed by inflammation of the metacarpo-phalangeal joint of the index-finger, and subsequently by complete ankylosis.

After an examination of the hand, Prof. Agnew concluded to perform a resection of the ankylosed joint, with a view to produce a false joint, and thus enable the patient to bring the finger in contact with the thumb. The operation consisted of an incision, one and a half inches in length, over the dorsal aspect of the affected joint down to the bone, and the removal of the head of the phalanx, with the division of some dense bands of tissue surrounding it.

One silver suture was introduced, closing the upper portion of the wound, and a dressing of lint, saturated with a dilute tincture of opium, was applied.

BALANITIS.

The patient was a man, aged 21 years, who presented some symptoms of vesical calculus,—incontinence of urine, pain on passing water, and sudden stoppage. The microscopic examination of his urine did not, however, confirm this diagnosis. Prof. Agnew then proceeded to examine the patient, and on retracting the redundant prepuce an inflammatory condition of its mucous surface and that of the glans and corona glandis was discovered. The lecturer said that inflammation in the localities here mentioned will often give rise to all the above symptoms of vesical calculus, so that an exploration of the bladder is necessary in order to make a diagnosis.

Several ounces of tepid water were injected into the bladder, and a sound was introduced, but no abnormal condition could here be detected.

The patient was advised to have a portion of the prepuce removed.

DEFORMITY OF HAND FROM CICATRIX.

This case was that of the patient operated upon at the University by Prof. Agnew two weeks ago, for deformity of hand from cicatrix following a burn, and reported in *The Medical Times* for July 1.

It will be recollect that the constricting bands were divided and the fingers brought out to a straight position.

The wounds were healing very nicely, presenting healthy granulations, with a border of new skin covering the greater part of each wound. Dry dressings were now being used. The hand and forearm had been kept closely bound to a straight anterior splint since the operation, and the fingers retained in good position. The operation has been attended with entire success, and the boy will have a very useful hand.

STRICTURE OF URETHRA.

The patient, a man, forty years of age, had incontinence of urine, and when making an effort to pass water it issued in a small, scattered stream, projected with little force. He had also a purulent discharge, either from gonorrhœa or stricture.

Prof. Agnew introduced a large-sized bougie, and passed it freely down to the sinus of the bulb, where he found a tight

stricture, just in front of the membranous portion of the urethra. He then introduced a small bougie, using no force.

The stricture was found to be a very tight one, and, as the man was in a bad condition, the operation was not pressed further at this time.

The lecturer said it was not always possible to pass a bougie through a stricture, even when urine trickled through, though gentle and patient efforts should be made from time to time. Should these ultimately fail, then it might be proper to attempt internal urethrotomy,—an operation, however, demanding the utmost care. As the patient was very much out of health, he was placed upon a course of tonic treatment, and ordered to return in a week or two, when efforts would be made to pass the stricture and dilate it; failing in which, the obstruction would be divided.

PHILADELPHIA HOSPITAL.

PSEUDO-PREGNANCY—NERVOUS PALPITATION OF THE ABDOMINAL AORTA.

SERVICE OF DR. JOHN S. PARRY, ATTENDING-ACCOUCHEUR, DECEMBER 16, 1870.

BRIDGET M.—, at 22, a domestic, single, temperate, was born in Ireland. She was admitted to the Philadelphia Hospital supposing herself to be pregnant. Her menses first appeared when she was 17 years old. She was usually unwell about three or four days at her menstrual periods, and did not lose a very large quantity of blood. She had intercourse for the last time on the 13th of April last, and once before in the same week. Since that period she has been regular in menstruation as to time, but only sick one day; lost but little blood, and complained of much pain in the lower part of the abdomen, thighs, and back.

On the 17th of April she complained of sickness of the stomach in the morning, and since that time has suffered from nausea immediately after rising, but has rarely vomited. Four months and four days after intercourse, she noticed, as she thought, some enlargement of abdomen, chiefly in the centre, and at that time says she quickened. The movement which she described as quickening was felt alternately in the right and left iliac fossæ; afterwards in the centre of the abdomen up to the ensiform cartilage; she could feel it with her fingers, was conscious of it when pursuing her ordinary avocations, and the motion was increased by excitement, fright, or eating a full meal. This movement always occurred along the aorta or its great branches.

At this time she dressed very tightly, in order to conceal her condition. In this she even went so far as to cut her sides with tight bandaging. After she was five months gone, as she supposed, she began to starve herself, often taking but a cup of coffee for breakfast, always stinting herself at dinner and supper, and sometimes going without the former meal altogether. Nevertheless her appetite was good all the time. Her bowels were constipated, and there was some pain when they were moved. For two months after her supposed conception there was considerable irritability of the bladder.

Present Condition.—She is rather pale and thin; muscles flabby; tongue clean; some nausea and pyrosis in the morning. Her pulse is about 86 per minute, slightly irregular, and intermittent. She complains of uneasiness in the precordial region, of irregularity in the heart's action, and of a constant disposition to sigh.

Her breasts are small, and the areola and follicles as in a virgin.

Her abdomen is not enlarged; no brown line or umbilical areola exists; everywhere resonant on percussion. There is a pulsatile movement in the centre of the abdomen, visible to the eye and perceptible to the touch, extending from the ensiform cartilage to the promontory of the sacrum. The abdominal walls are very lax, and the spine can be easily grasped through them from just below the ensiform cartilage to the promontory of the sacrum. The aorta and common iliac arteries can be very distinctly felt beating under the fingers. The movement which the woman believes to be due to a foetus is entirely pulsatile, and is not bearing or expansive. It is unattended with thrill. No aneurismal or other abdominal tumor

can be felt. The cavity does not contain a gravid uterus. Auscultation of the abdomen reveals a soft blowing murmur throughout the whole course of the aorta, but nothing like an aneurismal whirr. The sound of a foetal heart cannot be heard. Auscultation of the heart and lungs reveals no abnormal sounds. There is no aortic regurgitation.

Vaginal Examination.—Hymen present, partially ruptured. Introduction of finger or speculum gives considerable pain. Uterus high up, rather small, and slightly anteverted; os as in a virgin.

Speculum shows a healthy virgin uterus.

No amount of assurance will make her believe that she is not pregnant.

Treatment.—Infusion of digitalis (gr. xv to 3iv), 3j, three to five times daily. Iron (the pyrophosphate), gr. ii, in solution with dilute phosphoric acid, $\frac{1}{4}$ j. after each meal. Quinia, gr. ii, before meals, with three or four ounces of wine daily, and the best diet she can procure.

March 8, 1871.—She has abandoned the idea that she is pregnant. She looks rather more fleshy, but is very pale and anaemic. The palpitation of the aorta has ceased, and she complains much of pain in the abdomen above the epigastrium, especially when her stomach is empty. Pain is sharp and lancinating, and comes on suddenly, causing her to bend forward; after it has lasted for fifteen or twenty minutes she grows faint, but does not vomit.

Her appetite is fair, but after eating she digests poorly. She has some pain, but suffers more from tympany, and frequently eructates quantities of gas. Bowels opened daily, but the evacuation is small, and, on the whole, they may be considered rather constipated.

Pressure on the epigastrium produces pain from tenderness. Percussion shows that the abdomen is much distended by gas.

She is very short of breath. Suffers from dyspnoea on going up and down stairs or making other unusual exertion. Cannot walk more than two or three squares.

Complains much of palpitation of the heart. Pulse 100 per minute, soft, very compressible. A soft blowing murmur is heard at the base of the organ, coincident with the first sound.

Does not now complain of the palpitation of the aorta; says it has not troubled her since the last of January. Has no headache. Sleeps well, but is extremely nervous.

Menses are almost suppressed. At the usual time has pain and some headache, as usual, and loses a little blood, but the quantity is very small. Sometimes the flow does not last more than one hour, and the discharge, she states, is nearly black.

Diagnosis.—Gastralgia and chlorosis.

Treatment.—R.—Bismuth. Subnit., 3j.

Ft. chart. xii.

S.—One powder before each meal.

R.—Pulv. Aloes, gr. xv;

Pil. Ferri Carb., 3ss;

Ext. Gentian., gr. iv.

M. et ft. pil. xv.

S.—One after each meal.

An animal diet and porter were ordered at meals.

Under this treatment she gradually recovered.

ON THE MOVEMENTS OF THE EYES.—M. Javal (*The Academy*, April 15, 1871, from *Centralblatt*, No. 5, 1871, and Skrebitzky, in the *Nederland. Archiv. f. genees*—in *Naturkunde*, Band v. p. 474), who is subject to astigmatism, has found that, if the astigmatism be accurately corrected by means of cylindrical glasses when the head is erect, the correction is not perfect when the head is inclined, and that the eyes must consequently have altered their position in the head. A repetition of Donders' experiments of obtaining strong "after-impressions" by an approved method also showed that some rotation occurs. The experiments showed that at an inclination of 10° of the head the rotation of the eyes amounted to 1° , and that it increased proportionally to the inclination, so that when this amounted to 70° to 80° , the rotation increased to 8.6° ,—much less, therefore, than was admitted by Hueck. Donders was unable to demonstrate any such rotation by the application of his mode of "after-impressions."

THE MEDICAL TIMES.
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EDITORIAL.

SENTIMENT VERSUS SCIENCE.

SOME years ago a number of gentlemen formed in this city an association to prevent cruelty to animals; and this body has since done a large amount of good and honest work.

Much later, a number of women conceived the idea that a female branch was desirable, although why they could not have joined the men it is hard to see, except that they wanted a little more chance for sentimentality. However, the ladies got their Society, and began to look about for cruelties. The dogs of the city were at that time caught by rude colored persons, and murdered very savagely at the Pound, by being hanged and stunned with a blow on the head. The spectacle was brutal, and the previous treatment of the dogs unpardonably cruel.

After consultation with physicians, and obtaining the sanction of Councils to conduct these executions, the W. B. got control of the matter, and henceforward destroyed the dogs by the merciful use of carbonic-acid gas. The change was a good and a kind one. But now comes the difficulty. Certain physicians, desiring to experiment upon dogs, applied to the Mayor, and were told that the permission to have condemned dogs—never before denied—must be sought from the Women's Branch of the P. S. P. C. A. A civil letter, asking this favor of the President of the W. B., was answered by a curt note, mockingly proposing to furnish "dead dogs" for dissection, and charging cruelty and torture upon the physician who applied.

A good-humored inquiry as to whether the lady had acted without consultation with her society—which was actually the case—elicited finally three ferocious resolutions from the body in question, amply sustaining its hasty presiding officer.

Resolution 1st cordially approved her action, which was all that was needed. It was necessary, however, to sentimentalize a little; whence Resolution 2d,—which is worth reading:—"That we enter our most strenuous protest against vivisection *as heretofore conducted*,^{*} believing, on the authority of many eminent physicians, that any benefit resulting therefrom *to the cause of science* has not justified the infliction of the horrible sufferings to which thousands of helpless animals have been subjected."

The first phrase is not very clear, but it is pleasant to learn or to be able to infer that their objection is to vivisection "*as heretofore practised*." Will these ladies kindly suggest the desirable method for the future? The sentences which follow in defence of the protest assume that atrocious torments have been practised before a blood-stained Idol, known to men as Science, without one honest hint at the real and ultimate object to which all experimental medical science looks. We shall at present urge in return only this, that the whole structure of modern medicine and surgery rests upon a knowledge of the circulation of the blood, and that this, like nearly every step in physiology since taken, was won by experiments on animals. We conceive that we have thus gained certain good ends for man,—nay, more, for the animal; but the ladies insist that it is "*benefit to the cause of science*" that we groping doctors seek. Do they really think before penning such words of folly, or are they possessed with an idea that the medical investigator is a person sedulously busy with certain clever but meaningless enigmas or conundrums, with which frolicsome Nature is pleased to puzzle him?

Is it any wonder that honest, thoughtful, and humane men who for the near or remote good of men are eagerly seeking the secrets of life, and who "*inflict no pang unthoughtful*," should resent with contempt such language and such thought as this?

But our ladies have decided the point, entered strenuous protest, and, one would think, had *said enough*. Not so, indeed; we know that every lady's letter must have a postscript, and Resolution 3d occupies this dangerous place.

To our amazement and amusement, we find in it, "*That, whether vivisection be justifiable or not under any circumstances*, it would be the height of inconsistency that such an organization as ours should lend it its assistance in any way, shape, or form." We are glad, then, to learn that, despite Resolution 2d, there remains a doubt in the minds of the ladies as to the justifiability of vivisection,—the very dramatic word in which they seem most to delight, but which is as little descriptive of physiological experimentation as it well can be. However, the practical end is reached, and, after denial of dogs in "*any way, shape, or form*," there is no more to be hoped.

Dr. Mitchell replies, defending himself against the charge of cruelty, and referring them to Dalton's pamphlet. We have for this part of the correspondence only a word or two. Do these ladies suppose there is no such thing as moral cruelty, and that pain may not be inflicted by groundless charges of cruelty? And is there not a certain precept concerning the bearing of false witness, which it were well to remember?

We pass on to the last letter, which comes from the Executive Committee,—not that in charge of the Pound, we presume. We propose to sift certain parts of this letter. After a quasi-apology for the President's want of courtesy in her charge of cruelty, and a distinct statement that all experimentation on animals is to be regarded as an abuse, they proceed to state that for a

*The italics are ours.

society intrusted with funds to protect animals against cruelty and barbarous deaths it would be inconsistent, and a misuse of their means and a betrayal of trust, should they willingly turn over to any physician the dogs already condemned to die. Now, this seems fair enough at first sight. Let us look at it closely. The W. B. obtained leave from Councils to kill the dogs, and with it an annual grant of money, to which the W. B. adds certain subscriptions. Their subscribers, they say, would object to the experimental use of dogs. Very good; but when the city slew the dogs, its Mayor had for years granted this privilege; and why, then, should the W. B. dare indirectly to reflect on these officials, one of whom presided over their recent fair? Why assume to deny a right of value to the public, and which the city had never seen fit to question? There were, therefore, obligations to the public as well as to the subscribing ladies who aid to sustain the "Shelter," and who thus calmly set themselves in the way of the progress of humanity.

Let us put this in another shape. Owing to the relentless pursuit of loose curs and their wholesale executions, it became at one time really difficult to procure subjects for study. Then came their denial by the W. B. Now, it is quite possible for a cause to be a good one, and yet to be so conducted as in the end to inflict endless injury upon the public at large. It is right that the dogs should be killed without unnecessary cruelty. It is not right that any society should have the power to interdict the use of the dog for the good of the man. Suppose a society to be formed to bury unclaimed people, and that it so conducted its affairs as to prevent or make dear the use of bodies in dissection; should it be allowed to answer, "Oh, we don't approve of dissection. What do we care if you cannot get bodies?" Somehow or other the public, when convinced—as it will come to be—of the need for scientific material, is then pretty sure to care.

The answers made to Dr. Mitchell's letter are not such as we wish to trouble medical men with. No allusion is made to his assertion that Dalton's clever pamphlet has been left without reply,—which is strictly true,—except to refer him to two tracts, the one by a Dr. Drummond,—certainly the feeblest of such efforts,—and the other by Mr. Bergh. As to the latter production, we counsel the Society in its wisdom to suppress it for evermore; it is a stupid slander on the medical profession.

The amount of sentimentalism which has been allowed to exhibit itself in connection with this whole matter tempts us to say certain unpleasing truths; but we refrain from doing so out of respect to the body of good that lies behind, and which we hope some day to see stripped of the sentimental trimmings which the feminine fancy has cast around it.

Let us end by placing against the authority of the W. B. of the Society for Prevention of Cruelty to Animals the dictum of Prof. Huxley, that he who interferes with the pursuit of knowledge by experimentation on animals is a foe to humanity.

MILK AS A MEDIUM OF CONTAGION.

SOME years ago, in Edinburgh, it was noticed that typhus fever prevailed extensively among the customers of a particular dairyman. The circumstance led naturally to an investigation, when it was discovered that one or more of the members of his family had been ill with the disease. In this instance the man himself was thought to be the medium of contagion. More recent observation tends to show that milk may itself be a means of communicating disease. Thus, Dr. Bell, of St. Andrews, has shown that several cases of scarlet fever occurred among the customers of a dairyman whose cows were milked by a man convalescent of that disease; and in a pamphlet, which has just been received, "On a Localized Outbreak of Typhoid Fever in Islington," we find that Dr. Ballard, the Medical Officer of Health for the parish, after a careful investigation of all the circumstances attendant upon the epidemic, is compelled to adopt the theory that milk was the medium by which the disease was disseminated.

We have not space to follow Dr. Ballard through the elaborate train of reasoning by which he reaches this conclusion, and must therefore content ourselves with giving a few of the leading facts in the case.

The theory was originally suggested by a lady, and warmly taken up by her medical attendant, by whom it was communicated to Dr. Ballard. He seems to have been little disposed to accept it at first, but nevertheless set to work to see whether it was supported by any facts. He found, first, that the epidemic was almost entirely confined within a circle having a radius of not more than a quarter of a mile; secondly, that out of sixty-two families living within this district who are known to have suffered from typhoid fever, fifty-four, or fully eighty-seven per cent., were constantly supplied with milk from a particular dairy, and it was satisfactorily proved that at least three of the remaining eight had occasionally partaken of milk from the same source; and, thirdly, that out of one hundred and forty-two families, comprising all the customers of this dairy, and living not only within the district above specified, but in other parts of the parish, seventy, or very nearly one-half, were invaded by typhoid fever within the ten weeks during which the outbreak lasted. Among those who were attacked by the fever were the dairyman himself, seven other persons, members of his family, or boys employed and living on the premises, and three men engaged in the business, but who did not live in the dairyman's house,—all of whom had at various times partaken of the milk. It was also clearly shown during the investigation that the milk was of poor quality. Thus, one family testified that they discontinued its use "because it had a bad taste and was disagreeable;" and another person asserted that "she had several times complained to the dairyman himself that the milk when kept became stinking,—not (as she said) merely sour,—and also of its poor ness;" while a gentleman who had the curiosity to examine the milk with a sp.

gr. galactometer inferred that one-fourth of the bulk was added water. There was here at least very strong circumstantial evidence that the milk was diluted before being served out to customers, although against this view was the fact that among the earliest victims of the epidemic were the dairyman himself and some members of his family. In the yard adjoining the stables where the cows were kept was an old underground tank, the woodwork of which was found to have become rotten, and at one corner had broken down to the depth of about eight to ten inches, forming a considerable gap on that side of the tank. Rat-burrows were discovered in the earth immediately adjacent to this gap, communicating freely with a drain connected with a water-closet. No one employed by the dairyman could be induced to confess that water from this tank had ever been used to dilute the milk; but there was positive evidence that it had been freely used to wash the milk-cans. Whether the small quantity of foul water left in the cans after washing would suffice to contaminate the whole bulk of milk subsequently introduced is of course questionable, but Dr. Ballard thinks that it is not impossible. "We all know," he says, "how small, almost infinitesimal, an admixture of sewage will poison a well or running stream; nor is the idea of reproduction of the typhoid contagion out of, within, or in the presence of an appropriate organic material at all foreign to the prevailing opinion upon the subject. Future experience may show that milk, which has remarkable relations to chemical ferments, is a substance peculiarly adapted also to the reproduction of morbid contagia, or to the contagium of typhoid in particular."

Any one who will read this pamphlet carefully will, we think, reach the same conclusion as ourselves, that Dr. Ballard has fully maintained the correctness of the theory advanced by him, and that milk may occasionally and under certain circumstances be the medium for the communication of contagious disease.

The origin of the local epidemic of typhoid fever in Islington might readily have escaped detection by a less intelligent or a less conscientious observer than Dr. Ballard, and we must congratulate the parish of Islington upon having so capable a Medical Officer of Health.

WE take this opportunity of reminding our contributors that all articles sent to us as original communications are accepted with the understanding that they are furnished to us exclusively, and that they have not already appeared, in full or in abstract, in some other medical journal. It is evident, of course, that much of the value of a journal to its subscribers depends upon the freshness of the original communications which it contains; and we feel sure, therefore, that we have only to make this rule generally known to secure its observance. We may add that we always acknowledge the receipt of contributions of all kinds as soon as we have read them and decided as to their merits and suitableness for publication in our columns.

TRANSACTIONS OF SOCIETIES.

REPORT OF THE PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

AT a stated meeting of the Pathological Society, held June 22, 1871, the President, John Ashurst, Jr., M.D., in the chair,

DR. H. ALLEN presented a portion of a *rib of an ox*, showing effects from the pressure of an *encysted conoidal rifle-ball*. A well-defined depression was seen at the inferior half of the outer face of the rib at the base of the neck. Its shape corresponded, in general, to that of the ball, being, however, wider below than above, and somewhat broader and nodulated at its upper border. Its lower border was worn down to a sharp edge, and was emarginated. The ball had probably not struck the bone, but had become encysted, partially impinging upon the rib. The constant to-and-fro motion of the bone in respiration had produced the cavity.

DR. JOHN S. PARRY exhibited the *lungs of a child 2 years and 23 months old*. Both were the seat of *miliary tubercle*, as was also the *liver*, which had undergone some fatty change. At the base of the upper lobe of the right lung were also some cheesy deposits.

DR. J. H. GROVE presented a *necrosed inferior turbinated bone with an attached coffee-grain*, with the following history:

A woman, aged 24 years, presented herself at the St. Mary's Hospital a few months ago, with an offensive discharge from the left side of her nose, caused by a hard rough mass, which, after being extracted, was found to be the inferior turbinated bone, necrosed, and having attached to it a coffee-grain, of which the flat surface lay against the side of the bone; the grain was covered over by a cretaceous deposit. The coffee-grain being detached, there remained a distinct impression of its flat surface upon the bone. The mass occupied the middle of the inferior meatus, and completely obstructed the nasal fossa.

It was ascertained that she passed a coffee-grain into her nose when she was four years old, since which time she has had an unnatural discharge from the nose. She has, therefore, evidently retained it twenty years. No other bones of the nose were involved, and in two weeks the discharge ceased.

DR. J. EWING MEARS asked what was the exact position of the coffee-bean,—whether attached to the inner or outer surface of the bone. He thought that if attached to the inner, beneath the scroll-like projection, this would account for its long retention in the fossa. The resulting irritation would cause the inflammatory action which produced the death of the bone.

DR. ALLEN announced that a careful examination of the bone revealed that the bean was really attached to the inner surface, being lodged in the cavity behind the scroll-like process.

THE PRESIDENT said there had never been presented to the Society an example of a foreign body from the nostril which had been so long retained, though Dr. G. C. Harlan had presented, December 9, 1869, a fragment of a beetle which had been in the ear of a young gentleman for fourteen years.

DR. J. E. MEARS read the report of the committee to which was submitted the *dermoid cyst of the ovary*, presented by Dr. Hutchinson, February 9, 1871.

DR. MEARS also exhibited a *fragment of bone* removed from a *dermoid cyst* occurring in a patient of Dr. Washington L. Atlee. As in the case reported by Dr. Hutchinson, the patient was unmarried and of unquestioned virtue. The fragment bears some resemblance to the superior maxilla, and contains six teeth of the various kinds, in different stages of eruption. The teeth appear to resemble more closely those of the permanent set. Fatty matter and hair were also found in the cyst. Some of the hairs were quite long, measuring nearly two feet in length.

DR. G. C. HARLAN presented a *photograph of a case of congenital deformity of the mouth*, upon which he had operated recently at the Children's Hospital. The patient was a bright and well-nourished boy, three months old. The deformity

consisted in an enlargement of the right angle of the mouth, extending the commissure about an inch into the cheek. Beyond this there was a faint line, apparently a slight depression from thinning of the skin, which could be traced to the ear. In front of the ear were three small tumors of hypertrophied skin, attached to the cheek by a narrow pedicle. The largest and most anterior—a little larger than a pea and an inch in front of the tragus—contained a distinct cartilaginous ring. It was probably a rudimentary attempt at an additional auricle, as cases are recorded in which the external ear was absent and just such an appendage found in its place. A smaller tumor was also found in front of the left ear, but the child was otherwise perfectly formed. The mother has several other children, who are without deformity of any kind. The edges of the cleft were freshened and brought together with hare-lip pins, and they united nicely. The tumors were removed at the same time,—the larger by small flaps, and the smaller snipped off with a pair of large scissors. The change for the better in the child's appearance is very decided.

This deformity of the mouth is rare. Holmes, in his "Surgical Treatment of Children's Diseases," mentions only two cases, under the name of Macrostoma Congenitum,—one occurring in the practice of Fergusson, and the other in that of Langenbeck.

DR. GEORGE PEPPER presented the specimens from a case of *soft cancer of the left ovary, peritoneum, and uterus, with cystic tumor of the right ovary*. The patient was tapped a short time before death, and considerable fluid was thus removed from the peritoneal cavity.

DR. J. EWING MEARS remarked that Dr. T. G. Thomas, of New York City, as the result of some recent studies in malignant disease of the ovary, has included ascites among the characteristic symptoms. Dr. M. also remarked that in the course of considerable study of the fluids obtained by tapping the abdomen he was led to believe that occasionally, at least, it may be possible to distinguish ovarian and abdominal fluid. Both, of course, contain albumen, but in the peritoneal fluid there is apt to be an absence of the granular cells found almost invariably in ovarian fluid. Quite often, also, in a fluid effused into the peritoneum there is formed the fibrinogenous substance of Virchow and others, which keeps on increasing, and is apt to reappear as often as removed, so long as the fluid has not undergone decomposition. This does not generally occur in ovarian fluids, though it is common also in cystic tumors of the uterus itself. It seemed to be the product of irritation.

DR. J. S. PARRY said there was no such substance present in this case, and he thought it was doubtful whether the characters referred to by Dr. M. could be relied upon as diagnostic. He had met the coagulum of fibrinogenous substance in a single instance only, in a pleuritic fluid, though he knew that many cases of its occurrence are recorded.

DR. JAMES TYSON said that although inflammatory effusions are often met in which this substance does not form, yet he thought it was rarely present in non-inflammatory effusions, i.e. those which result from pressure merely, whatever their seat.

DR. MEARS repeated that he merely claimed for the characters named a presumptive evidence.

REVIEWS AND BOOK NOTICES.

WEAR AND TEAR, OR HINTS FOR THE OVERWORKED. By S. WEIR MITCHELL, M.D. Pp. 59. Philadelphia, J. B. Lippincott & Co., 1871.

Dr. Mitchell's purpose is to show how the health of our people, both bodily and mental, has been deteriorating under the adverse influences exerted by climate and certain prevalent practices and fashions. He holds that the mischief thereby produced has already risen to a fearful amount, and we presume that no one who has considered the subject professionally will think he has exaggerated the evil. We believe that the more closely we observe the men, women, and chil-

dren of our time in relation to these influences, the more strongly we shall be impressed with the fact that they are mischievous to an incalculable extent. It is exhibited, as Dr. Mitchell represents, in a large increase of the diseases of the nervous system, in the premature breaking down of men engaged in the active pursuits of life, and in the impairment of the female constitution, whereby a large proportion of the sex become unfitted for the proper performance of their duties as wives and mothers, "multitudes of our young girls being merely pretty to look at, or not that, whose destiny is the shawl and the sofa, neuralgia, weak backs, and the varied forms of hysteria."

The agencies concerned in producing these results, as presented by Dr. M., are the excessive mental strain required by all whose employments task the mind rather than the body, unrelieved by suitable relaxation, the forcing process of education, whereby an amount of mental work is obtained from young children which would be hazardous to adults, and a climate which by some peculiar quality renders the strain of both bodily and mental labor remarkably exhausting. Unquestionably our climate exerts a peculiar effect on the nervous system, as indicated by a high degree of excitability; but in regard to the evils in question we should hesitate to give its influence so wide a sweep as Dr. M. does. The evils themselves are of recent occurrence,—quite unknown, indeed, sixty or seventy years ago; whereas the climate has been the same from the time of the Pilgrims, or, if changed, the change has been for the better. If its peculiar quality is connected with its temperature, it must have improved, for certainly it is not so cold as it once was. "In my warm study," says Cotton Mather, "from the billets of wood lying on a great fire, the sap forced out at the ends of them has frozen there, and been turned into ice, while the wood has been consuming." A winter of such weather now would decimate the race.

We are not disposed to lay less stress than Dr. M. does on the particular causes of this vital depreciation, to which he calls attention. We are glad that people are reminded, on unquestionable authority, of the daily mischief perpetrated in our public and private schools, and hope that men striving with all their might for the great objects of life will heed the timely warning. There are other agencies no less effective in producing the same result, to which Dr. M.—pressed by regard to brevity, probably—has barely alluded.

Any one who has carefully watched the steps of our social progress during the last fifty years must have observed that it has been accompanied by a notable depreciation of the female constitution in the working and aspiring classes. The higher compensation of labor has enabled them to adopt a style of living far in advance of that which was once perfectly satisfactory. Wants are supplied, tastes are gratified, aspirations are entertained, that once were scarcely dreamed of. Furniture and clothing, such as few professional men, and not many others, would have ventured to indulge in at first setting out in life, are too common among the working-classes to attract attention. A centre-table covered with illustrated books, and a piano or a melodeon, probably, for the eldest daughter, indicate some degree of mental cultivation and conceptions of enjoyment beyond the dull routine of their appointed lot. One of the blessings of wealth, however, is beyond reach. With all this show of prosperity, the woman must do her own household work. With her one pair of hands she must prepare the food of her family, make the clothes of herself and the children, and keep her house in order, under the discouragements of frequent child-bearing and prolonged lactation, almost entirely unrelieved by seasons of rest and relaxation. Few of our indigenous women can stand such drudgery long before succumbing to some of the numberless forms of "ill health." Of course, in this condition, they cannot bear healthy children, and so the mischief is perpetuated. This incessant toil, it must be considered, though bad enough at best, is performed under circumstances well calculated to intensify the evil. In the days of wood-fires and open fireplaces it was performed in rooms well ventilated and comfortably warmed. Now, the single fire, to which most families are restricted, is made in a stove, cooking the food and warming the room, the family thus living, year in and year out, in an atmosphere heated to eighty degrees or more and loaded with the vapors and odors of the cookery. Is it strange that,

living in such a medium, colds and headaches should become a part of their daily experience, abridging their native power to meet the wear and tear of their appointed work? Verily, the blessed genius who will furnish the humble homes of our country with some substitute for the omnipresent cooking-stove which will do its appropriate service without spoiling the surrounding air for all purposes of respiration and warmth, will confer a benefit on his race, scarcely second to that derived from vaccination or anaesthetics.

Hardly inferior to this agency in promoting the wear and tear of domestic labor is the fashion of tight lacing. There was a time—some twenty or thirty years ago, perhaps—when this fashion seemed to have disappeared, but it is certainly common enough now. That women of every degree of culture should undertake to change the figure which Nature has given them, by a painful process of distortion, and at the risk of destroying their fitness for the duties of a wife and mother, would be regarded as incredible if related of some foreign people; and yet the actual fact meets us here at every turn. It is said on good authority that in some English boarding-schools the work of reducing the size of the waist by means of some mechanical contrivances is steadily continued until the regulation pattern is obtained, which is stated to be sixteen inches in circumference, though an inch or two less is often thought desirable. We are not aware that any boarding-school in this country is expected to render such a service, but there is evidence enough that it is accomplished, some way or another, to a frightful extent. This practice, we believe, is accountable for many if not most of the maladies peculiar to the sex,—curvature of the spine, prolapse of the womb, headaches, palpitations, and dropsical effusions. The deterioration of the female constitution thus effected is repeated spontaneously in succeeding generations, and so we have a race of women loathing the offices of maternity, shirking them, perhaps, by reprehensible means, and subject all their lives to the shawl and the sofa. But it is idle to contend against fashion, at whose shrine ease, health, comfort, life, are willingly sacrificed.

We hope this little book will be widely circulated, as it well deserves to be, because the warnings which it utters are greatly needed, and are clothed with the authority of a large experience and a careful observation.

A TREATISE ON THE MEDICAL JURISPRUDENCE OF INSANITY.
By I. RAY, M.D. Fifth Edition, with Additions. 8vo,
pp. xvi., 658. Boston, Little, Brown & Co., 1871.

Another reading of Dr. Ray's work, "in which the various forms and degrees of mental derangement are treated in reference to their effect on the rights and duties of man," more powerfully impresses us with its immense value to the student of this branch of legal medicine. The first edition, published thirty-three years ago, and then unique in the English language, was upon a plan so well conceived that each succeeding issue has exhibited but those changes demanded by the progress of ideas, together with the responses of the bench and bar to the requirements of science.

We chronicle with great satisfaction the clear and comprehensive suggestions contained in paragraph 26, concerning *criminal tendency*, that lifelong proclivity to crime, so often observed to depend not entirely upon vicious associations or neglect, but, to a vast extent, upon a certain heritage transmitted from parent to child,—an effect, it may be, of intemperance, convulsive disease, or other morbid affections; also in paragraphs 155–160, devoted to the *insane temperament*, "an abnormal condition closely allied to insanity, and but recently recognized and described." Those to whom this temperament belongs "by no allowable stretch of language can be called insane," writes the doctor, "yet they are ever in the shadow of that abnormal element which has obtained a place among the healthy qualities of the brain." A long and even useful life may be spent by them, achieving a reputation for singularity only, but, in many instances, any unusual demand upon their faculties will result in undoubtedly mental disease. Indeed, the manifestations of an hereditary liability to brain- and nerve-disorder are very various. The influence of direct descent is firmly established, but atavism, in which one or more generations are exempt, may sometimes occur,—although we believe that the intermediate generation is never completely

unscathed. And the practised observer in families where insanity exists recognizes this transmitted element in the neuroses, in the peculiar modes of thought and feeling, in the exaltation and depression, in the headaches, in the irrelevant expressions, in the lamentable want of plain common sense,—all, perhaps, associated with many ennobling gifts and graces.

Fully appreciating the terse words of Mr. William Allen Butler ("Lawyer and Client"), that "the Law is the most positive of sciences and the most rigorous of human forces," we can understand why every plea of insanity is in our courts submitted to the time-honored tests of the knowledge of right and wrong, good and evil, the power of design and delusion; yet we fail to see why the rules which guide the skilful diagnostician of physical disease should not be applied to the detection of mental disease. Still, Dr. Ray's book affords abundant evidence that the scientific jurist does entertain any really valuable suggestions made by our profession; and we look forward to a time when, as recently laid down by Judge Doe, of New Hampshire, insanity shall be "a question of fact for the jury, and not a question of law for the court."

We conclude this brief chronicle by calling the attention of the probable expert to Chapter XXIX., upon the Duties of Medical Witnesses,—especially if suffering from the mental perturbations caused by a *subpoena*.

THE CORRELATION OF ZYMIC DISEASES. By A. WOLFF, F.R.C.S. Pamphlet, pp. 24. London, J. & A. Churchill, 1871.

There are so many points of resemblance in zymotic diseases that it is not surprising that the idea has occurred to Mr. Wolff, as it has already done to others, that they might in fact depend upon a cause common to them all. It cannot, however, be denied that there are also points of divergence; and the object of the little pamphlet before us is to explain away these differences. In the first place, Mr. Wolff believes that the principle in physics "that a molecule, set in motion by any power, can impart its own motion to another molecule with which it may be in contact," may be applied to the explanation of the phenomena of disease, and that the various forms of zymotic diseases, epidemic and other, can be explained on the simple principle of extension of molecular motion. It is difficult, as the author admits, to reconcile our minds to the idea that diseases apparently so distinct can have a common origin, but he points out that the difference between any two of these diseases is scarcely greater than the same disease sometimes exhibits in different individuals; and this is notably true of scarlet fever. The true explanation of this variety of zymotic diseases originating from a common cause is to be found in the number of channels through which the noxious agent may find access to the body; and he somewhat fancifully supposes that syphilis and dissecting-wound fever may be caused by the same agent gaining access to the body through the medium of the blood, which, when it strikes through the alimentary canal, may give rise to typhoid fever and cholera. The respiratory organs acting as another channel, the poison may perhaps give rise to the phenomena that we express by the terms scarlatina, measles, etc.

Another difficulty in the way of the acceptance of this theory is presented by the fact that when a healthy subject is submitted to the contagion of any zymotic disease, an exactly similar disease is produced. This difficulty does not, however, appall our author, for "the result," he says, "is exactly what might be looked for, in accordance with the purely physical theory of disease. The molecular motion is extended in precisely the same direction as that from which it was derived, and the different individuals, though distinct, must be looked upon as mere extensions of surface and substance: as when a heated substance is brought into contact with another of low temperature, the heat is communicated to the cooler body; if a tuning-fork be brought into contact with a sonorous body, the two vibrate in unison."

This theory, the author thinks, will explain more satisfactorily than any other many of the phenomena observed during the course of epidemics, and especially will it be found to account for their origin, their diffusion, and their decline. "A certain number, then, of individuals," he says, "subjected to the contagion of these molecules in motion, have the action extended to their bodies, and diffuse the diseased action in a

constantly widening circle; and this very diffusion, while extending the ravages, tends to limit the duration and gradually diminish the intensity, of the disease. As the undulations of ruffled water gradually die away in the distance,—as the waves of sound decrease in intensity as they are diffused through a larger space,—as a heated substance gradually imparts its motion to contiguous matter until a condition of stasis is arrived at,—so this poisonous action loses in intensity as it gains in extension, until the diseased action is too feeble to overcome the resistance of healthy action, and a state of stasis (restoration of health in the individual, cessation of the epidemic in the community) is the result."

Mr. Wolff has not, however, undertaken to explain to us why it is that individuals who have had one attack of a contagious disease rarely have a second. If he is correct in comparing the molecular motion which causes disease to the motion which is accompanied by heat or sound, we can see no reason why the molecules of a body which have once been set in motion in a particular way should lose the property to be again similarly excited.

THE MYSTERY OF LIFE. An Essay in Reply to Dr. Gull's Attack on the Theory of Vitality in his Harveian Oration for 1870. By LIONEL S. BEALE, M.B., F.R.S., etc. 12mo, pp. 71. London, J. & A. Churchill, 1871.

This little book is written in support of the metaphysical basis of life, as it may be called in contradistinction to Mr. Huxley's well-known Physical Basis of Life. It is an attempt to defend the theory of vitality by showing the weakness of the opposing physical doctrines, and the author has at least demonstrated that his opponents stand upon an insecure foundation. He argues with considerable truth that the correlation of vital and physical forces cannot be accepted unless it is shown "that vitality can be converted into heat or some other mode of force, or that some mode of force or energy can be made to assume the form of vitality." There is also great stress laid upon the fact that living matter has never yet been created by man, and the obvious corollary is insisted upon that scientists should not talk about that of which they know nothing. With all respect for Dr. Beale's earnestness, however, we cannot but regard the assumption of a special mode of force, such as vitality, to be quite as unwarrantable as the wildest proposition of the physicist. For, after all, upon what does the vital hypothesis rest but the *peculiarity* of certain phenomena occurring among special material forms, which cannot be explained by physics or chemistry in the present state of our knowledge? The great difficulty in Dr. Beale's estimation which prevents him from accepting the physical hypothesis is the undoubted fact that living bodies have not been formed by human agency; but this fact affords no foundation for the doctrine of a "special force." Experience teaches that the immaterial entity "aquosity" was only destroyed by the progress of chemical synthesis when water was both decomposed and recomposed in the laboratory. We look to synthetical chemistry in like manner for an explanation of the actions occurring in those complex bodies called living, and, until some certainty is gained, would ask both physicists and vitalists to remember the words of Sir Isaac Newton:

"Whatever is not deduced from phenomena is to be termed hypothesis; and hypotheses, whether metaphysical or physical, or occult causes, or mechanical, have no place in experimental philosophy."

BOOKS AND PAMPHLETS RECEIVED.

On Amputation of Redundant Scrotum in the Treatment of Varicocle. By M. H. Henry, M.D., Surgeon to the New York Dispensary, Department of Venereal and Skin Diseases, etc. Reprinted from *The American Journal of Syphilography and Dermatology*. Pamphlet, pp. 10. New York, F. W. Christern, 1871.

The Sixteenth Annual Announcement of the Pennsylvania College of Dental Surgery.

Annual Catalogue and Announcement of the Woman's Medical College of the New York Infirmary.

A Manual of Midwifery, including the Signs and Symptoms of Pregnancy, Obstetric Operations, Diseases of the Puerperal State, etc. By Alfred Meadows, M.D., London, Physician to the Hospital for Women and to the General Lying-in Hospital. First American from the Second London Edition, Revised and Enlarged, with Illustrations. 8vo, pp. xxiii., 487. Philadelphia, Lindsay & Blakiston, 1871.

Handy-Book of the Treatment of Women's and Children's Diseases, according to the Vienna Medical School; with Prescriptions. By Dr. Emil Dillberger. Translated from the Second German Edition by Patrick Nicol, M.B. 12mo, pp. xii., 244. Philadelphia, Lindsay & Blakiston, 1871.

The Physician's Prescription-Book: containing Lists of the Terms, Phrases, Contractions, and Abbreviations used in Prescriptions, with Explanatory Notes, etc.; to which is added a Key, containing the Prescriptions in an Unabbreviated Form, with a Literal Translation. For the Use of Medical and Pharmaceutical Students. 18mo, pp. xvi., 286. By Jonathan Pereira, M.D., F.R.S. Fifteenth Edition. Philadelphia, Lindsay & Blakiston, 1871.

GLEANINGS FROM OUR EXCHANGES.

A PECULIAR NERVOUS DISEASE.—Dr. F. Fieber, of Vienna, calls attention in the *Centralblatt für die Medicinischen Wissenschaften* for May 6, 1871, to a peculiar disease of the nervous system, which he has lately had the opportunity of observing. It is characterized by an inability on the part of the patient to execute voluntary movement with a moderate amount of quickness, while no difficulty is experienced in the performance of either very slow or very rapid actions.

HYDRAMYLE.—Dr. Richardson (*Med. Times and Gazette*, June 24), in continuing his researches on the physiological action of the light hydrides, has recently succeeded in rendering one of the series applicable for the production of general anaesthesia, and has administered the vapor of it to human subjects for short operation twice recently, and with marked success. He proposes to call the substance hydramyle. We shall shortly have from him a full account of the action and administration of hydramyle.

EARLY PUBERTY.—A. Menzel (*Centralblatt*, from *Wien. Med. Wochensch.*) reports a case in which puberty manifested itself in a girl four years of age. Shortly after her birth her breasts were noticed to be unusually developed, and at the time she first came under observation they corresponded in size to the breasts of a maiden of sixteen to eighteen years of age. The mother noticed a few days before bringing her to Dr. M. a discharge of reddish liquid from the genitals. The mons veneris and the labia majora were covered with moderately-thick hair. The uterus could be felt through the rectum. The child while being examined showed an unusual degree of bashfulness, but in other respects had all the characteristics of a child of her age.

EXTERNAL EXAMINATION A PREVENTIVE OF PUEPERAL FEVER.—Professor T. Halbertsma, of Utrecht, suggests, in the *Medical Times and Gazette*, that wherever there is a danger, as in lying-in hospitals, of infection from the accoucheur, external examination should be the rule, the internal one the exception. By external examination alone, we can, he says, in most cases, ascertain the position of the child, whether it has sunk deep into the pelvis, and, by auscultation, whether there is danger for the child. If the head is sunk deep, and the pulsation of the foetal heart normal, we have reason to anticipate a favorable issue, and for the time should do nothing but leave Nature to her own course.

ACUTE DROPSY.—Dr. H. Wood, Jr., at the close of an able paper on the above subject (*Amer. Journ. Med. Sci.*, July, 1871), announces the following conclusions: 1. In acute Bright's disease, whether originating from scarlet fever, ar-

senical poisoning, or cold, the dropsy is not the result of the kidney disease, but, with the latter, is dependent upon a common cause. 2. An irritant poison, organic or otherwise, may give rise to dropsy without other appreciable organic disease. 3. Exposure to cold and wet may produce dropsy without other disease, and there is, therefore, such an affection as acute idiopathic dropsy. 4. Acute dropsy is mostly, if not always, the result of irritation of the cellular tissue.

MR. W. ADAMS (*British Medical Journal*, May, 1871, p. 525) has arrived at the following conclusions respecting the conditions of the coxo-femoral articulation in ankylosis. The conclusions are adduced in support of the author's proposed operation for subcutaneous division of the neck of the thigh-bone :

1. In rheumatic ankylosis no destruction of bone ever exists, and the head and neck of the thigh-bone, therefore, always remain of their natural size.

2. In ankylosis after pyæmic inflammation, more especially in its subacute form, from which the patient frequently recovers, destruction of bone rarely if ever exists, the soft structures only being destroyed.

3. In ankylosis after traumatic inflammation in healthy adults, such as that which occurs after wounds of the joints, and gunshot wounds in the neighborhood of the joints, the joint itself having escaped injury, and in some cases of ankylosis chiefly from long-retained position, as a general rule, no destruction of bone occurs, even after acute suppurative inflammation, the soft tissues only being involved.

4. In ankylosis after strumous disease of the joint, when arrested in the early stage, without the occurrence of suppuration, or, at least, of abscess bursting externally, there is generally only a superficial caries of the head of the bone; and, the destruction being thus limited in extent, the neck of the thigh-bone remains of its natural length, although practically somewhat shortened by being depressed or sunk into the acetabulum.

5. In ankylosis following the more severe forms of strumous disease, in which there have been evidences of caries and necrosis of bone, with abscesses bursting externally and remaining open a considerable time, generally giving exit to small particles of bone, destruction of the head and neck of the thigh-bone, to a greater or less extent, may be diagnosed.

PURULENT INFLAMMATION OF THE JOINTS IN THE COURSE OF ERYSPIELAS.—Dr. E. Ritzmann (*Berliner Klin. Wochenschrift*, No. 18) calls attention to a condition which occurred as a complication in five of one hundred and thirty cases of erysipelas observed by him in soldiers. The joints affected were at some distance from the wounds for which the patients were under treatment. He thinks that in the course of erysipelas purulent inflammation may occur, as a consequence of the erysipelas, in those joints which lie superficially under the inflamed skin. These inflammations of the joints he believes to be analogous to the inflammations of other serous membranes, and are due to an extension of the disease to the synovial membrane.

In the five cases that Dr. R. had the opportunity of observing, the ankle-joint was affected twice, the knee, elbow, and shoulder-joint each once. Death occurred in two of the cases from pyæmia.

THE ADDITION OF CHLORAL TO COD-LIVER OIL.—The *Gaz. Farm. Ital. (Med. Times and Gaz.)*, June 24) advocates the addition of chloral hydrate to cod-liver oil. It renders it much less nauseous, and prevents the night-sweats of the phthisical patient, induces sleep, and creates appetite. The pure chloral-hydrate crystals may be added to cod-liver oil in the proportion of ten grains of the former to one hundred and ninety of the latter.

LESIONS OF NUTRITION FOLLOWING WOUNDS OF THE PERIPHERY.—P. Schieffendecker (*Centralblatt*, May 6; from *Berliner Klin. Wochensch.*, No. 14) says that atrophy of the muscles, thickening of the skin, with an excessive development of pigment in it, desquamation, increased growth of the hair and nails, excessive sweating, and diminution of the temperature, are among the commonest results of wounds of the extremities. The development of the skin and of the epidermal structures which takes place under these circumstances

is attributed to the relative increase in the quantity of nutritive material supplied to them, in consequence of less being appropriated by the muscles. Dr. S. has observed the same development of the skin and its appendages, together with the inter-muscular fat, in cases of central nervous disease.

Dr. H. Fischer (*Centralblatt*, May 6; from *Berliner Klin. Wochensch.*, No. 13), in a more elaborate article, calls attention to some nutritive changes after wounds of nerves which have already been pointed out by Dr. S. Weir Mitchell.

THERAPEUTIC ACTIONS AND USES OF TURPENTINE.—In the course of a paper on this subject (*Edinburgh Medical Journal*, July, 1871), Dr. Warburton Begbie takes occasion to recommend the use of turpentine in the severe headache which is apt to occur in nervous and hysterical women. "There is, moreover," he says, "another class of sufferers from headache, and this is composed of both sexes, who may be relieved by turpentine. I refer to the frontal headache, which is most apt to occur after prolonged mental effort, but may likewise be induced by unduly-sustained physical exertion,—what may be styled the headache of a fatigued brain. A cup of very strong tea often relieves this form of headache; but this remedy, with not a few, is perilous, for, bringing relief to pain, it may produce general restlessness and—worse of all—banish sleep. Turpentine, in doses of twenty or thirty minimis, given at intervals of an hour or two, will not only remove the headache, but produce, in a wonderful manner, that soothing influence to which reference has already been made."

ON THE REPRODUCTION OF THE EPITHELIUM OF THE CORNEA.—In some experiments in this direction, by Dr. Hjalmar Heiberg, of Christiania (*The Academy*, April 15; from *Stricker's Medizinische Jahrbücher*, 1871, Heft 1), the epithelium was scraped off clean with a scalpel from a small space on the surface of the cornea, and a series of cornea so prepared was studied after intervals of five, six, eighteen, etc. hours. Immediately after the operation the free space is bounded by sharp vertical edges, which in five or six hours become flattened, so that the boundary-line is no longer well defined; in eighteen hours the space is reduced one-half, and in from forty hours to three days it is entirely covered over. Microscopically it was found that the epithelium was reproduced only around the edges, so that an insulated spot of epithelium never appeared. In the reproduction of common skin over abraded surfaces, Dr. H. believes that the parent epithelium of the spot is derived from some destroyed gland-duct, and, as there are no glands in the cornea, the phenomenon cannot occur here. Some of the cornea were watched for from two to five hours. Wander-cells were observed on the free surface of the cornea, in its substance, and also among the epithelial cells, but Dr. H. was unable to observe the transmutation of these cells into epithelial cells. Between the mass of old cells and the two or three rows of new ones was seen a zone of yellowish masses, apparently of intercellular albuminous substance, which appeared to have always a centre of aggregation. They executed amoeboid movements, and one of them was observed to separate into five rounded masses. Dr. Heiberg's conclusions were, however, drawn from the investigation of sections of the cornea treated with perchloride of gold. Apparently, two layers of cells advance over the denuded space, the cells of the outer layer sometimes advancing over those of the under, and sometimes vice versa.

Cells with many nuclei rarely occur, but one was observed containing five. Dr. Heiberg believes that the cells around the edge of the bare space send out processes in which there appears a translucent spot, which spot becomes the nucleus of the cell thus formed. He thus thinks that the nuclei of the new cells are not derived from the division of those of the parent cells. These become the parents of others in the same manner, and thus the space is partially filled up. These results are opposed to those of J. Arnold, who says the new cells are developed out of a finely granular mass, which first coats over the abraded surface.

PHYSIOLOGY AND PATHOLOGY OF THE CIRCULATION.—Dr. George Johnson (*British Medical Journal*, May 20, 1871) denies the existence of a peristaltic wave throughout the circulation, due to muscular contraction, analogous to that which takes place in the small intestine, as claimed by Legros and

Onimus in Robin's *Journal de l'Anatomie et de la Physiologie*, 1868. Dr. J. says the error of these gentlemen lies in their not being careful to distinguish between the functions of the large elastic arteries and those of the microscopic muscular arterioles. The pulsating wave in the former is obvious, and is explained by the action and reaction of the ventricular contraction and arterial resiliency by which the intermitting rush of blood from the heart is gradually converted into a continuous stream in the small arteries and capillaries. This is the pulsation which Messrs. Legros and Onimus have seen without a lens in the branches of the retinal artery and in the ear of the rabbit. The arteries which are large enough to be visible by the unaided eye are mainly elastic, and contain very little muscular tissue. Watched with a high power, the circulation in the web of a frog's foot is seen to be equable and continuous both in the capillaries and the muscular arterioles, though sometimes the impulse of the heart will be seen to distend slightly the microscopic arterioles.

It is well established that, in order that a muscular canal may drive on its contents in a definite direction, it must either be provided with valves, or it must contract in a peristaltic wave like the intestine. We know that the former is not the case, and see in the transparent parts of animals that the minute arteries do not contract peristaltically. It is obvious, therefore, that, while they regulate the blood-supply, they have no power forcibly to drive the blood onwards. This is the generally-received view, and, Dr. J. says, can only be temporarily disturbed by the inexact observations and loose reasoning of Messrs. Legros and Onimus.

Another correction is made by Dr. Johnson, which we think it desirable to disseminate, since we are confident that the error is accepted as truth by many in this country. In proof that the arteries alone suffice by their contraction to carry on the circulation, a writer in the *British and Foreign Medico-Chirurgical Review* for April refers to the case of an acardiac fetus, published by Sir Benjamin Brodie, of which the reviewer says it "lived several days after birth." Startled by this seemingly incredible statement, Dr. Johnson referred to the paper in the *Philosophical Transactions*, 1809, p. 161, where he found it stated that "both fetuses were born dead." He says, moreover, it is well established that an acardiac fetus has never been known to occur except in association with a twin fetus perfectly developed; and Sir Astley Cooper, describing a case of this kind in *Guy's Hospital Reports*, vol. i., first clearly demonstrated that, by means of the communication between the arteries and veins of the two fetuses at the junction of the umbilical cord with the placenta, the heart of the perfect fetus drives the blood through the vessels of its acardiac companion.

MISCELLANY.

CONDURANGO.—Dr. D. W. Bliss, of Washington, D.C., reports in the July number of the *New York Medical Journal* two cases of mammary and one of uterine cancer treated by him with condurango. We believe that he is the first physician in good standing who has given to the profession the results of his experience with this remedy in the treatment of this disease, our sources of information in regard to it having been, up to the appearance of his paper, highly sensational articles and advertisements in the secular press. Dr. Bliss found the drug to act most happily in the three cases which he reports, but unfortunately the supply gave out before it could be said to have been thoroughly tested in any one of them. We cannot help regretting that Dr. Bliss's account of the condition of his patients, both before and after its administration, as well as of the progress of their cases, is so very meagre. In the report of one of the cases—that of Mrs. Matthews, the mother of the Hon. Schuyler Colfax—he delegates this duty almost entirely to Mr. Matthews, from whose letters he makes

lengthy extracts. This was rendered necessary to a certain extent, it is true, by the return of Mrs. Matthews to her home in Indiana; but the details which he himself furnishes of the other cases are equally meagre.

In all the cases decided improvement resulted from the use of condurango, and Dr. Bliss evidently believes that it possesses the power to cure cancer. We should certainly be glad if upon a fuller trial this were found to be the case; but, having known before now a remedy to enjoy a temporary reputation in the treatment of malignant disease, and subsequently to lose it, we require further proof of its usefulness before accepting it as a specific. Dr. Bliss, it seems, intends to subject the drug to a fair trial, for we learn from another source that he has sent his partner, Dr. Keene, to Ecuador, to procure a large supply of it. Although Dr. Keene has met with many difficulties in penetrating to the region where the plant grows, he has at last been successful in obtaining a large quantity of it, and will return to this country in August.

An analysis of the drug has been made by Prof. Antsell, of Washington. Very little is known of the plant from which it is derived, but it is believed to be a shrub. The bark contains whatever medicinal virtues are in the plant.

The constitution of one hundred parts of bark is as follows:

Moisture	8
Mineral salts	12
Vegetable matters	80

These vegetable matters are separable by the usual methods into the following:

Fatty matter, soluble in ether and partially in strong alcohol	7
Yellow resin, soluble in alcohol	2.7
Starch, gum, and glucose5
Tannin, yellow and brown coloring-mat- ter, and extractive	13.6
Cellulose, lignin, etc.	63.5
	80.0

Whatever medicinal virtues the plant may possess must—Dr. Bliss says—reside either in the yellow resin or in the extractive, neither of which seems to be present in it in large amount. No crystalline alkaloid or active principle, no volatile oil or acid, was separable by the usual method of proximate analysis.

INFANTICIDE IN LONDON.—Dr. Lankester remarked recently, at an inquest on the body of a newly-born child which was found under the gate of a lady's residence at Paddington, that over three hundred bodies of children are found in the streets of London every year.

THE NEW ST. THOMAS' HOSPITAL.—On Wednesday, June 21, the Queen, accompanied by several members of the royal family, and attended by a brilliant suite, composed of cabinet officers, church dignitaries, and distinguished members of the medical profession, formally opened the new hospital. The Queen gave her own name to one of the wards, and that of the late Prince Consort to another, and conferred the honor of knighthood upon the Treasurer of the Hospital. The busts of Cheselden and Mead, the gift of the old students of the hospital, excited much interest among professional visitors.

TESTIMONIALS TO DISTINGUISHED PHYSICIANS.—We are glad to learn from the London medical journals that the opportunity offered by Mr. Paget's retirement from the active

duties of Surgeon to St. Bartholomew's Hospital is not to be allowed to pass without steps being taken to mark the appreciation of the manner in which his genius and energy have been exerted to promote the prosperity of the hospital and medical school during his long and intimate association with them.

It is also the intention of the past and present students of Guy's Hospital to present a testimonial to Mr. Edward Cock, in recognition of his faithful services at that institution; and Dr. Sibson and Mr. Lane are to be the recipients of a similar compliment from their old pupils at St. Mary's Hospital.

DEATH OF THE DOUBLE BABY.—Mina and Minnie Finley, the double baby, as they have been popularly called, whose case was very fully reported in Dr. William Goodell's able and interesting lecture "On Monstrosities" which appeared in the number of the *Medical Times* for June 15, died on the 18th of July in Boston, Mass. From the newspaper account we infer that Mina, the more robust of the children, became sick soon after being taken to Boston, and died after a few days' illness. The other child seems to have been in perfect health at the time, but, in spite of the efforts of physicians to save its life, died three hours after its sister. It is not known whether the parents of the children permitted a post-mortem examination to be made.

EXPOSURE OF SMALLPOX PATIENTS.—A woman was fined five pounds in London for having wilfully exposed her maid-servant while suffering from smallpox. The unfortunate woman was ordered to leave the house, and was in the street several hours. On the other hand, Dr. Aldis, the Medical Officer of Health of St. George's, Hanover Square, applied for a summons against a milkwoman in Belgravia for exposing herself during the time that she had smallpox. The magistrate told him that the act of Parliament applied only to cases of outdoor exposure, and reluctantly declined to grant the application. The London *Lancet*, in commenting upon the circumstance, says, "If this be the right construction of the act (which we have no reason to doubt), it is a very obvious defect in the law, and affords another proof of the correctness of the vulgar proverb that you may always drive a coach-and-six through an act of Parliament."

THE STRASBURG MEDICAL SCHOOL.—The *British Medical Journal* of June 10 and the London *Lancet* of the same date contain contradictory statements in regard to the School of Medicine at Strasburg. The former says, "The Medical School of Strasburg will probably be transferred to Lyons. A deputation of the Strasburg professors and the Director of the Secondary School of Medicine at Lyons have gone to Versailles to hold a conference on the subject with the Minister of Public Instruction." The latter, on the other hand, asserts that "the lectures of the Medical School, after some hesitation, have been resumed, as Dr. Schützenberger, the dean, strove to remove difficulties. The Prussian authorities have signified that at the present time the teaching may be carried on in French, as heretofore." There appears to be, however, but little doubt that the former professors of this school will hereafter lecture at Lyons.

TWO INSTITUTIONS CONFUSED.—We noticed in a late number of *Every Saturday* a statement—and we have seen it elsewhere—that women are now admitted to the medical lectures at the University of Pennsylvania. This is of course a mistake, the writer of the paragraph evidently confusing the University with the Pennsylvania Hospital, an institution with

which it is wholly unconnected, and in which female students at present receive separate instruction in clinical medicine and surgery. The effect of their introduction to the hospital has been to diminish the number of the male students in attendance upon the regular clinics; and, with this experience before them, it is most improbable that the Trustees of the University would adopt so suicidal a policy as that of throwing open the lecture-rooms to women. The medical profession is ably represented in the Board of Trustees of the University; and this alone would prevent any such hasty or unwise legislation as that by which female students were admitted to the clinics of the Pennsylvania Hospital.

A DRUGGIST SUED.—From the *Medical Times and Gazette* we learn that a suit was recently brought in England against a chemist and druggist by a man to whom the former had given some mercurial pills, with directions how to use them. The pills salivated him, and an illness followed, which the medical man in attendance ascribed to the effects of the pills. The judge held that the law now was that every person who professed to follow any skilful employment was bound to bring to the exercise of it a reasonable amount of skill. This applied to medical men, but not to chemists and druggists, who were simply sellers of drugs. If a man would be so great a fool as to go to a chemist and take any pills that he might give him, it was his own fault. The matter having been argued at some length, his Honor decided that there was no case for the jury, so that, unless the plaintiff elected to be nonsuited, he should direct the jury to find a verdict for the defendant. The plaintiff preferred a verdict for the defendant, in order that he might be in a position to appeal.

It would be very well for this community if it understood that few apothecaries in this country have any knowledge of the therapeutic properties of drugs.

LOCAL LONGEVITY.—The Miscellany of this journal contains, in addition to much other matter, reports of the mortality of Philadelphia, condensed from the weekly returns of the Board of Health. We do not give, however, the ages of those whose deaths are recorded. To supply this omission, to a certain extent, we insert the following paragraph, which is taken from the *Public Ledger* of this city, and which we think will be of interest to our readers:

"The record of the last six months, beginning January 1 and closing June 30, shows that in the obituary columns of the *Public Ledger* there appeared, during that period, notices of the deaths of no less than 280 persons who had lived to or beyond the advanced age of eighty years. Of these 114 were males and 166 females, showing that the females outnumbered the males by 52,—about three to two. A further analysis also demonstrates that while the females living over eighty years outnumbered the males, the females also were the longest lived, there being many more females than males who lived to or beyond the age of ninety years."

COMPARATIVE MERITS OF THE MEDICAL SCHOOLS OF VIENNA AND BERLIN.—Dr. H. Rosborough Swanzy, in a letter to the *British Medical Journal* for June 17, says, "I think Berlin and Vienna to be equally good for the study of clinical surgery, ophthalmic surgery (since the death of Von Graefe), physiology, and histology. I think that Berlin has the advantage in operative surgery, clinical medicine (since the death of Oppolzer), physiological chemistry, pathology, and psychiatric medicine; while Vienna excels in diseases of the skin, syphilis, laryngoscopy, and obstetric medicine."

STATISTICS OF THE GENERAL HOSPITAL IN VIENNA.—In order that our readers may be enabled to judge for themselves

[Aug. 1, 1871]

of the opportunities for the study of disease afforded by Vienna, we copy the following statistics from the number of the same journal for July 1, 1871:

"The report for 1869 of the General Hospital in Vienna, containing 2000 beds, shows that the number of patients admitted during the year was 20,214,—12,789 males and 7425 females. The average mortality was 12.6 per cent. The maximum number of male patients in hospital at one time was 1070, in December, and of females, 812, in January. The average duration of each patient's stay in hospital was thirty-one days. The total number of cases was 1097 more than in 1868; the death-rate was nearly the same, having for fourteen years oscillated between 11.4 and 13.3, except in 1866, when cholera was prevalent and the deaths amounted to 14.4 per cent. Among the cases were 792 of ileo-typhus or enteric fever, 27 of exanthematic typhus, 332 of intermittent fever, 1458 of pulmonary phthisis, 3 fatal cases of hydrophobia, and 2 of dissection-wound, which recovered. There were also four cases of cerebro-spinal meningitis,—all in males; 729 of pneumonia,—the disease affecting both lungs in 121 cases; 495 of gonorrhœa, 410 of syphilitic chancre, and 1286 of secondary syphilis. Among the operations were 95 amputations, 36 resections, 187 cases of removal of tumors, 10 cases of lithotomy, and 9 of lithotomy; 7 ovariotomy cases (of which 6 were fatal), 305 operations for cataract, and 249 iridectomies. The total expenses for the year amounted to 589,611 florins (about \$270,000).

RESPONSIBILITIES OF PHYSICIANS.—It is well known that it is by no means so easy a matter to become a practitioner of medicine on the Continent of Europe as in this country, and that any one who would attempt to exercise the functions either of a physician or of a surgeon, without having first qualified himself for it by an attendance at a medical school and by passing a thorough examination, would be rigorously dealt with by the law. The effect of this is to secure to the community the advantage of having well-educated physicians, to diminish the number of irregular practitioners, and to prevent encroachments upon the rights of regularly educated physicians. In Austria, however, the state demands, in return for this advantage, that the physician shall keep himself thoroughly informed as to the progress made by the medical sciences, and punishes with great severity any one who shows himself incompetent or ignorant of the changes which have occurred in the practice of his profession. We believe, also, that a physician is responsible to the law if he fail to perform any operation, such as the Cæsarean section or herniotomy, and the patient die in consequence of his neglect.

To show the severity of the Austrian law in these particulars, we quote the following from the *British Medical Journal* for July 1, 1871:

"The Vienna newspapers report a remarkable and startling trial for malpraxis, which presents considerable interest. A surgeon, sixty-three years of age, in a case of difficult labor, proceeded, after waiting a couple of hours, to deliver by means of a bent lever. After great exertion, which bathed the doctor in sweat, the child was brought to light with injuries inflicted on the head, which, according to the official jurist, had caused death. The court submitted that the use of the instrument was unjustifiable according to the opinions now taught; to which the doctor vainly retorted, that the instrument had been recommended to him, in the year 1832, by the then professor, and that he had since used it frequently with success. The court decided that he should be deprived of his license to practise midwifery till such time as he should prove, by a new examination, that he had made up his way in professional knowledge. The judge offered some very admirable advice to the unfortunate practitioner, observing that when a man devotes himself to a branch of science or art he dare not remain stationary, but he must advance with the spirit of the time and keep pace with the progress of science."

MORTALITY OF PHILADELPHIA.—The following reports are condensed from the records at the Health Office:

		For the week ending July 8.	July 15.
Consumption		39	41
Other Diseases of Respiratory Organs		13	22
Diseases of Organs of Circulation		16	21
Diseases of Brain and Nervous System		55	74
Diseases of Abdominal Organs		125	163
Zymotic Diseases		21	16
Debility		18	26
Marasmus		19	17
Cancer		3	7
Syphilis		2	0
Scrofula		0	0
Tetanus		1	1
Old Age		7	13
Stillborn		24	22
Malformation		0	0
Casualties		14	14
Sunstroke		0	1
Suicide		0	1
Murder		0	1
Intemperance		1	1
Unclassifiable		16	17
Unknown		5	2
Totals		379	460
Adults		141	161
Minors		238	299

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM JULY 4, 1871, TO JULY 18, 1871, INCLUSIVE.

WIETZ, H. R., SURGEON.—By S. O. 38, Headquarters Department of Arizona, so much of S. O. 22 from those Headquarters as directs this officer to proceed to Camp Lowell, A.T., for duty, is revoked.

GHISELIN, J. T., SURGEON.—By S. O. 258, War Department, A. G. O., July 1, 1871, leave of absence extended six months.

MCCLELLAN, ELY, ASSISTANT-SURGEON.—By S. O. 261, War Department, A. G. O., July 5, 1871, relieved from duty in the Department of the Missouri, to proceed to Philadelphia, Pa., and report by letter to the Surgeon-General.

JANEWAY, J. H., ASSISTANT-SURGEON.—By S. O. 120, Headquarters Department of the Missouri, July 3, 1871, assigned to duty at Fort Hays, Kansas.

HAPPERSETT, J. C. G., ASSISTANT-SURGEON.—By S. O. 126, Headquarters Department of the Missouri, July 13, 1871, assigned to duty at Fort Garland, C.T.

WOODHULL, A. A., ASSISTANT-SURGEON.—By S. O. 272, War Department, A. G. O., July 13, 1871, leave of absence extended 11 days.

GIBSON, JOSEPH R., ASSISTANT-SURGEON.—By S. O. 272, War Department, A. G. O., July 13, 1871, granted leave of absence for 30 days.

BUCHANAN, W. F., ASSISTANT-SURGEON.—By S. O. 143, Headquarters Department of the East, July 6, 1871, assigned to duty at Fort Hamilton, N.Y. Harbor. Assignment suspended until further orders by S. O. 149, Department of the East, July 13, 1871.

AZPELL, T. F., ASSISTANT-SURGEON.—By S. O. 105, Headquarters Department of California, June 17, 1871, to report in person to the Medical Director of the Department.

FITZGERALD, J. A., ASSISTANT-SURGEON.—By S. O. 121, Headquarters Department of the Missouri, July 5, 1871, granted leave of absence for 30 days.

STERV, CHARLES, ASSISTANT-SURGEON.—By S. O. 72, District of New Mexico, June 23, 1871, to proceed to Fort Stanton, N.M., for duty at that post.

DELANEY, ALFRED, ASSISTANT-SURGEON.—By S. O. 120, Headquarters Department of the Missouri, July 3, 1871, to proceed to Santa Fe, N.M., and report to the Commanding Officer District of New Mexico for assignment to duty.

HALL, JOHN D., ASSISTANT-SURGEON.—By S. O. 152, Headquarters Department of Dakota, July 8, 1871, assigned to temporary duty at Cheyenne Agency, D.T.

BRYNE, C. B., ASSISTANT-SURGEON.—By S. O. 93, Headquarters Department of the Columbia, June 29, 1871, upon being relieved at Camp Harney, to proceed to Camp Warner, Oregon, for duty at that post.

REYNOLDS, FRANK, ASSISTANT-SURGEON.—By S. O. 93, c. s., Headquarters Department of the Columbia, upon being relieved at Fort Stevens, to proceed to Camp Harney, Oregon, for duty at that post.

EWEN, CLARENCE, ASSISTANT-SURGEON.—By S. O. 154, Headquarters Department of Dakota, July 11, 1871, relieved from attendance as witness before G. C. M., and directed to return to his post, Camp Baker, M.T.

O'DONOGHUE, F., MEDICAL STOREKEEPER.—By S. O. 261, War Department, A. G. O., July 5, 1871, granted leave of absence for 60 days on surgeon's certificate of disability.

MECHM, A. F., SURGEON.—Died at Pleasantville, Harford Co., Md., July 14, 1871.